

AD-A034 247

MCDERMOTT (J RAY) CO INC NEW ORLEANS LA
ENGINEER DESIGN OF A MONO-MOORING SYSTEM. DRAWINGS.(U)
1966

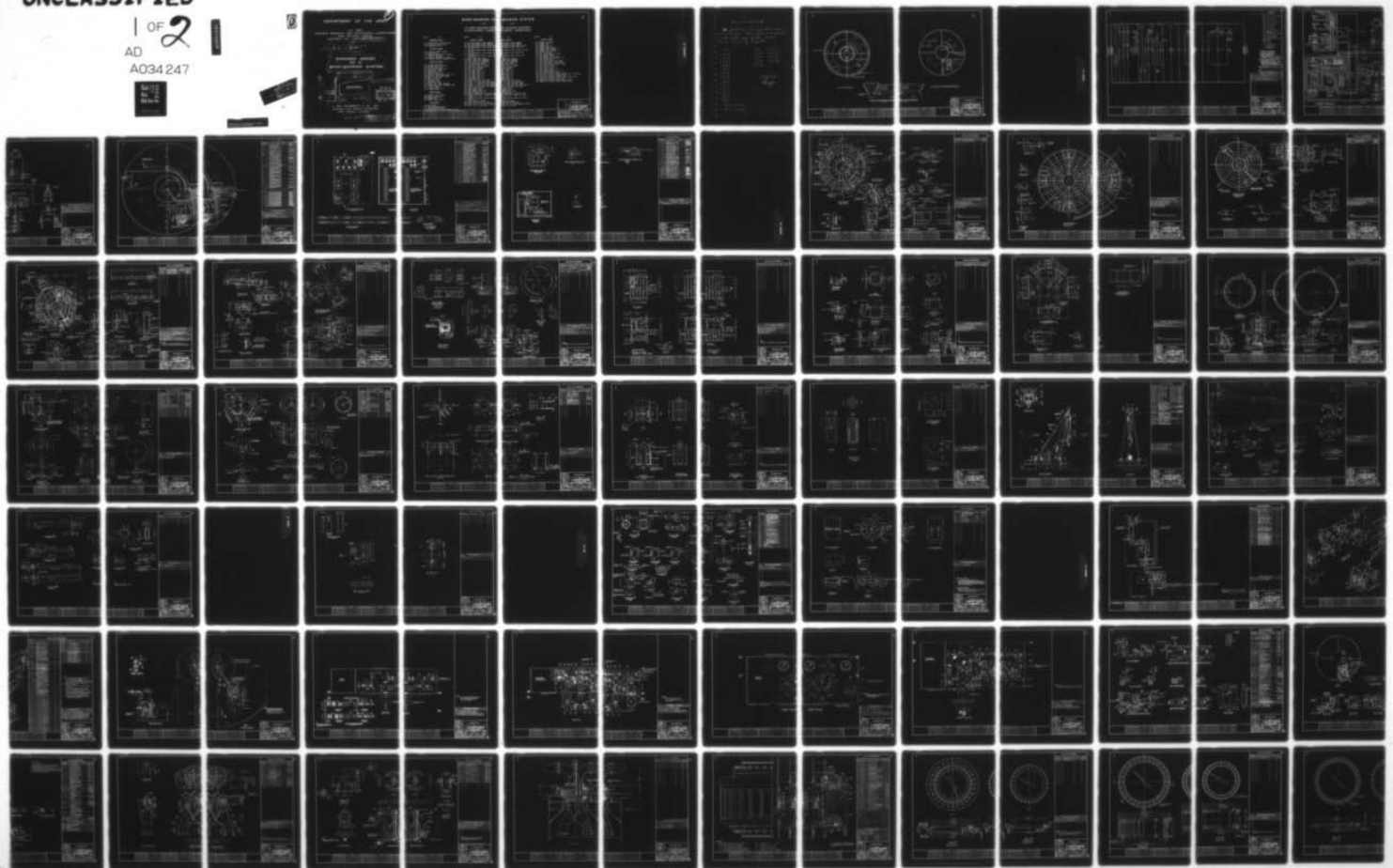
F/G 13/10

DA-44-009-AMC-841(T)

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1 OF 2
AD
A034 247

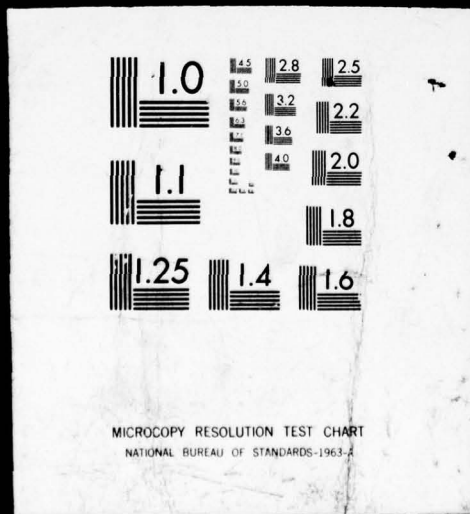


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1 OF 2

AD

A034 247





DEPARTMENT OF THE ARMY

U.S. ARMY
ENGINEER RESEARCH AND DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA
CONTRACT NO. DA-44-009-AMC-841(T)

9 Rept. on PHASE 1.

ENGINEER DESIGN OF A MONO-MOORING SYSTEM,

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DRAWINGS.

11 1976

12 182 p.

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J. RAY McDERMOTT & CO., INC.
Engineers and General Contractors
New Orleans, Louisiana

222 950 ✓

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U.S. ARMY ENGINEER RESE
& DEVELOPMENT LABORAT

TITLE

MECHANICAL DRAWINGS

- | | | | | | |
|------------|------|-------|-----------|--------|---------------|
| 861 | BUOY | WINCH | HYDRAULIC | SYSTEM | SCHEMATIC |
| 862 | BUOY | WINCH | HYDRAULIC | SYSTEM | ISOMETRIC |
| 863 | BUOY | WINCH | HYDRAULIC | SYSTEM | PIPING SKID P |
| 864 | BUOY | WINCH | HYDRAULIC | SYSTEM | CONTROL BOX |
| PLAN NO. 1 | | | | | |

ELECTRICAL DRAWINGS

- 601 ELECTRICAL SCHEMATIC DIAGRAM
602 WIRING DIAGRAM
603 ELECTRICAL ARRANGEMENT OF MACHINE &
604 STORAGE COMPARTMENTS
605 ELECTRICAL ARRANGEMENT IN CONSOLE
606 ELECTRICAL-SECTIONS, ELEVATIONS & DETAILS

- | | | | | |
|-----|---------------|-----------|--------|-------------|
| 865 | BUOY WINCH | HYDRAULIC | SYSTEM | CONTROL BOX |
| | PLAN NO. 2 | | | |
| 866 | BUOY WINCH | HYDRAULIC | SYSTEM | CONTROL BOX |
| | ELEVATION "A" | | | |
| 867 | BUOY WINCH | HYDRAULIC | SYSTEM | CONTROL BOX |
| | ELEVATION "B" | | | |

STRUCTURAL DRAWINGS

- ```

800 TOP DECK FRAMING PLAN
801 MACHINERY DECK FRAMING PLAN
802 BOTTOM FRAMING PLAN
803 ROTATING DECK FRAMING PLAN
804 MISCELLANEOUS DETAILS
805 MISCELLANEOUS DETAILS
806 BULKHEAD DETAILS (SHT.1)
807 BULKHEAD & MISCELLANEOUS DETAILS (SHT.2)
808 INNER RACE BOGIE WHEEL SUPPORT
809 INNER & OUTER RACE
810 VENTILATION SYSTEM
811 VENTILATION SYSTEM
812 MISCELLANEOUS DETAIL
813 ROTATING DECK LOCKING MECHANISM
814 ROTATING DECK LOCKING MECHANISM DETAILS
815 A- FRAME ASSEMBLY
816 A- FRAME DETAILS (SHT.1)
817 A- FRAME DETAILS (SHT.2)

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868 DIESEL ENGINE PIPING SCHEMATICS
869 DIESEL ENGINE PIPING ARRANGEMENT
870 FLOW SYSTEM PIPING ARRANGEMENT
871 FLOW UNIT SWIVEL ASSEMBLY
872 FLOW SWIVEL—LOWER UNIT DETAILS
873 FLOW SWIVEL—UPPER UNIT DETAILS
874 SWIVEL TO BUOY CONNECTION
875 FLOW SWIVEL ASSEMBLY
876 FLOW SWIVEL DETAIL (SHT 1)
877 FLOW SWIVEL DETAIL (SHT 2)
878 FLOW SWIVEL DETAIL (SHT 3)
879 FLOW SWIVEL DETAIL (SHT 4)
880 FLOW SWIVEL DETAIL (SHT 5)
881 FLOW SWIVEL DETAIL (SHT 6)
882 FLOW SWIVEL DETAIL (SHT 7)
883 ASSEMBLY INNER RACE BOGIE WHEELS
884 DETAILS (SHT 1) INNER RACE BOGIE WHEELS
885 DETAILS (SHT 2) INNER RACE BOGIE WHEELS
886 ASSEMBLY & DETAILS OUTER RACE BOGIE WH
887 DETAILS (SHT 2) OUTER RACE BOGIE WHEELS
888 ASSEMBLY—CHAIN STOPPER
889 CHAIN STOPPER DETAIL (SHT 1)
890 CHAIN STOPPER DETAIL (SHT 2)
891 CHAIN STOPPER DETAILS (SHT 3)

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MOORING DRAWINGS

- 825 MOORING & ANCHOR SYSTEM
826 ANCHOR SYSTEM DETAIL
827 MOORING SYSTEM
828 MOORING SYSTEM DETAILS *1

HOSE DRAWINGS

- 840 HOSE ASSEMBLY
841 HOSE MISCELLANEOUS DETAILS
842 HOSE INSTALLATION DETAILS
843 OPTIONAL STEEL FLOAT FOR SUBMARINE HOSE LINES

- 895 FLOW SYSTEM PIPE SUPPORTS
896 SWIVEL LOCKS-FLOW SYSTEM PIPING
897 DIESEL FUEL FILL CAP & VENT ASSEMBLY
898 DIESEL FUEL FILL CAP DETAILS

[illegible]

2

ARMY ENGINEER RESEARCH
DEVELOPMENT LABORATORIES

[illegible]

000 - ARRANGEMENTS

Removed Drawings

The following drawings have been removed from this book and placed in the draft copy of the MERDC Mono-Mooring Report.

✓ 001

830 missing?

✓ 826

832 missing?

✓ 002

833 missing?

✓ 825

834 missing?

✓ 840

✓ 842

✓ 871

✓ 870

✓ 888

✓ 827

✓ 919

✓ 912

✓ 907

✓ 900

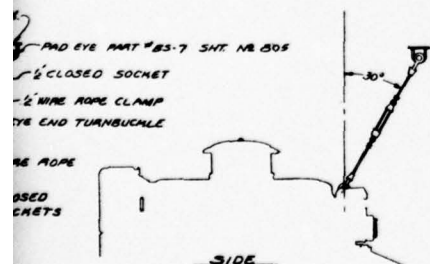
✓ 908

829 missing?

831 missing?

27 June 69


Truys

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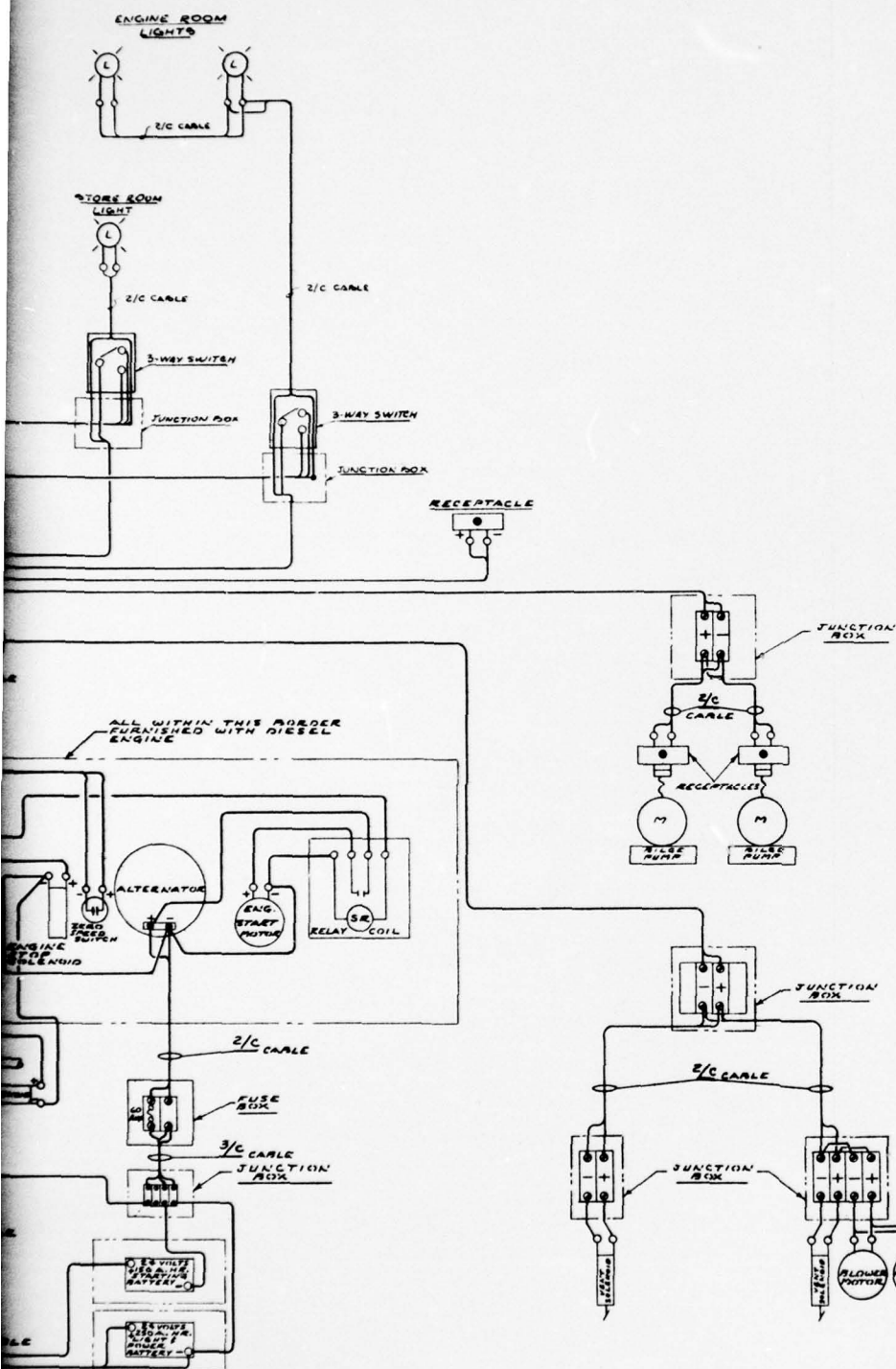
PLAN OF MACH. & STORAGE COMPARTMENTS

LINE LAUNCHING SUPPORTS
NO SCALE

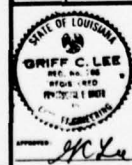
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 <p>STATE OF LOUISIANA GRIFF C. LEE REG. NO. 128 EXPIRES 10/10 COUNTY 1300 ON DATE 10/10/71</p> <p>APPROVED: <i>[Signature]</i></p> <p>J. RAY McDERMOTT & CO., INC. DATE: 1-23-66</p>	<p align="center">MONO-MOORING SYSTEM</p>	
	<p align="center">FOR</p>	
	<p align="center">U.S. ARMY ENGINEER RESEARCH & DEVELOPMENT LABORATORIES</p>	
	<p align="center">FORT BELVOIR, VIRGINIA</p>	
<p align="center">ENGINEERS APPROVAL</p>	<p align="center">J. RAY McDERMOTT & CO., INC.</p>	
<p align="center">ENGINEERS</p>	<p>NEW ORLEANS, LA.</p>	<p>CONTRACTORS</p>
<p>PROJECT: <i>SS 200</i></p> <p>PROPOSAL: <i>SS 200</i></p> <p>PROBES:</p> <p>MEASUREMENTS:</p> <p>FACTORS:</p> <p>COMPUTATION:</p> <p>FILE NUMBER: <i>CP 7720</i></p>	<p>DESIGN BY: <i>BOAS</i></p> <p>SCALE: <i>1/2" = 1'-0"</i></p> <p>PREPARED BY: <i>9-7649</i></p> <p>DATE: <i>9-7649</i></p> <p>PROJECT NO: <i>USA 7971</i></p>	<p>PREPARED BY: <i>9-7649</i></p> <p>DATE: <i>9-7649</i></p> <p>PROJECT NO: <i>USA 7971</i></p>
<p>PREPARED BY: <i>9-7649</i></p> <p>DATE: <i>9-7649</i></p> <p>PROJECT NO: <i>USA 7971</i></p>	<p>PREPARED BY: <i>9-7649</i></p> <p>DATE: <i>9-7649</i></p> <p>PROJECT NO: <i>USA 7971</i></p>	<p>PREPARED BY: <i>9-7649</i></p> <p>DATE: <i>9-7649</i></p> <p>PROJECT NO: <i>USA 7971</i></p>

600 - ELECTRICAL



REFERENCE DRAWINGS	
SHEET NO	TITLE
601	ELECTRICAL SCHEMATIC DIAGRAM
602	ELECTRICAL ARRANGEMENT OF MACH & STORAGE COMPARTMENTS
604	ELECTRICAL ARRANGEMENT ON CONSOLE
605	SECTION, ELEVATIONS, & DETAILS

[illegible]

MONO-MOORING SYSTEM

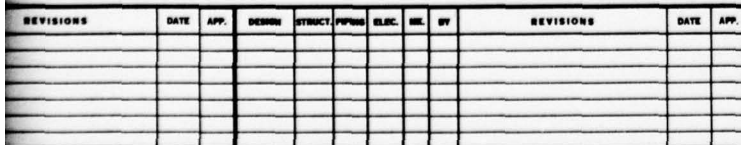
FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.


ENGINEERS **CONTRACTORS**

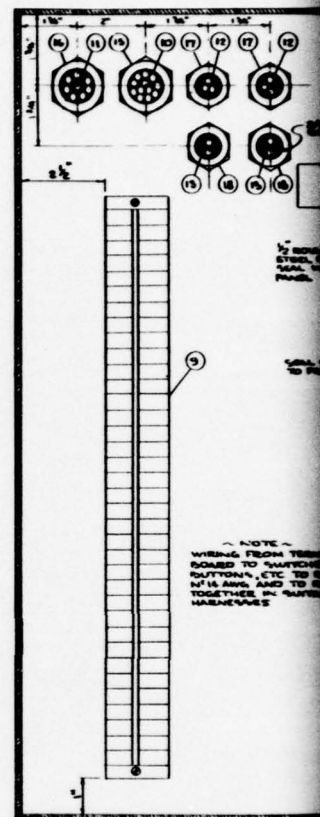
NEW ORLEANS, LA.			
DRAWN BY G. BASIN	SCALE NONE	DATE 10-7-65	PROJECT NO. USA-2971
FABRICATORS JOB NO.		1 DAY IN DETAIL JOB NO. 66017	SHEET NO. 602

WIRING DIAGRAM



REFERENCE DRAWINGS	
SMT. NO.	TITLE
601	ELECTRICAL SCHEMATIC DIAGRAM
602	WIRING DIAGRAM
604	ELECTRICAL ARRANGEMENT IN CONSOLE
605	ELECTRICAL - DETAILS, ELEVATIONS, SECTIONS

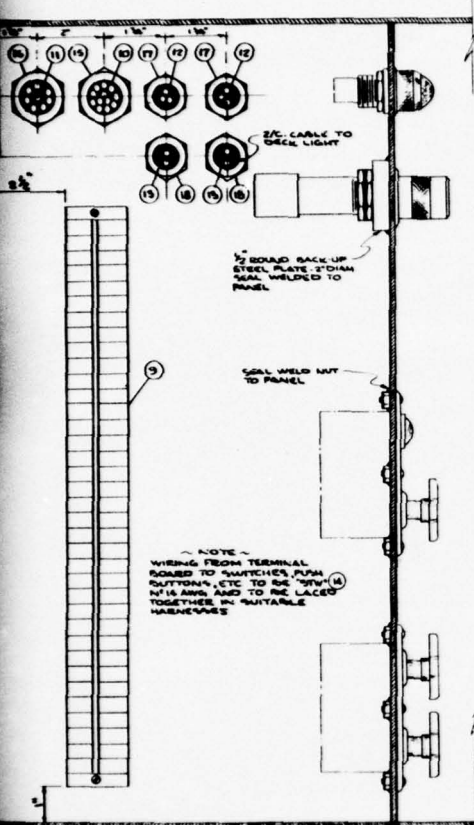
 <p>STATE OF LOUISIANA GRIFF C. LEE REC. PG. 706 BY 0195 - 4403 INVESTIG. 1 0276 CAL. 11 12 1974</p>	<p align="center">MONO-MOORING SYSTEM</p>																																					
<p>APPROVED: <i>McKay</i></p> <p>J. RAY Mc DERMOTT & CO., INC. BATTY <u>1-28-66</u></p>	<p align="center">FOR U.S. ARMY ENGINEER RESEARCH & DEVELOPMENT LABORATORIES FORT BELVOIR, VIRGINIA</p>																																					
<p>ENGINEERS' APPROVAL</p> <table> <tr> <th>PROJECT</th><th>BY</th><th>DATE</th></tr> <tr> <td>PROVISIONAL</td><td><i>McKay</i></td><td><i>1-28-66</i></td></tr> <tr> <td>PERIOD</td><td></td><td></td></tr> <tr> <td>REVISIONAL</td><td></td><td></td></tr> <tr> <td>REVISIONAL</td><td><i>McKay</i></td><td><i>1-28-66</i></td></tr> <tr> <td>INTERVIEW</td><td></td><td></td></tr> <tr> <td>FOR CHECK</td><td><i>McKay</i></td><td><i>1-28-66</i></td></tr> </table>	PROJECT	BY	DATE	PROVISIONAL	<i>McKay</i>	<i>1-28-66</i>	PERIOD			REVISIONAL			REVISIONAL	<i>McKay</i>	<i>1-28-66</i>	INTERVIEW			FOR CHECK	<i>McKay</i>	<i>1-28-66</i>	<p align="center">J. RAY Mc DERMOTT & CO., INC. ENGINEERS</p> <p align="center">NEW ORLEANS, LA.</p> <table> <tr> <th>DESIGNED BY</th><th>SCALE</th><th>DATE</th><th>PROJECT NO.</th></tr> <tr> <td><i>McKay</i></td><td><i>1/4" = 1'-0"</i></td><td><i>10-3-66</i></td><td><i>U-46-2877</i></td></tr> <tr> <td>FORWARDED BY</td><td></td><td>J. RAY Mc DERMOTT & CO., INC.</td><td>GROUP NO.</td></tr> <tr> <td></td><td></td><td><i>66017</i></td><td><i>667</i></td></tr> </table>	DESIGNED BY	SCALE	DATE	PROJECT NO.	<i>McKay</i>	<i>1/4" = 1'-0"</i>	<i>10-3-66</i>	<i>U-46-2877</i>	FORWARDED BY		J. RAY Mc DERMOTT & CO., INC.	GROUP NO.			<i>66017</i>	<i>667</i>
PROJECT	BY	DATE																																				
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FORWARDED BY		J. RAY Mc DERMOTT & CO., INC.	GROUP NO.																																			
		<i>66017</i>	<i>667</i>																																			
<p>ELECTRICAL ARRANGEMENT OF MOORING SYSTEM</p>	<p>CONTRACTORS</p>																																					



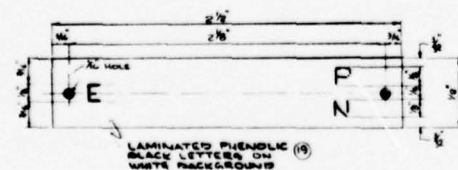
SECTION "A-A"
SCALE: HALF SIZE

- LIST OF NAMEPLATES
SCALE: FULL SIZE

[illegible]



SECTION A-A
SCALE: HALF SIZE



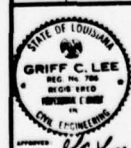
TYPICAL DIMENSIONS
OF NAMEPLATE
SCALE: DOUBLE SIZE

BILL OF MATERIAL

FIND SYM.	FIND NO.	QTY.	NOMENCLATURE	SPEC.	CAT. NO.
	1	2	WATERPROOF MARINE COMBINATION SWITCH 24 V. PILOT LIGHT WITH GUARD ASSEMBLY TO BE COMPLETE WITH 6 SCREWS BUT WITHOUT BOX		RUSSELL (SYLL 1144
	2	1	WATERPROOF MARINE RECEPTACLE SINGLE GANG TWO WIRE TO BE COMPLETE WITH 6 SCREWS BUT WITHOUT BOX		RUSSELL (SYLL 479 LP
	3	1	WATERPROOF MARINE SWITCH TWO GANG THREE WAY 10 AMP. COMPLETE WITH 6 SCREWS BUT WITH OUT BOX		RUSSELL (SYLL 634
	4	3	EMP SERIES BARREL ASSEMBLIES SINGLE PUSH BUTTON MOMENTARY CONTACT		CHANCE MFG CO EMP 019
	5	4	WATER TIGHT INDICATOR LIGHT PANEL MOUNT FOR 1" CLEARANCE HOLE 12V D.C. LAMP		DIALCO 105-5101-131
	6	1	24V D.C. GREEN LENS FOR ABOVE ITEM		DIALCO
	7	2	24V D.C. AMBER LENS FOR ITEM 6		DIALCO
	8	1	24V D.C. RED LENS FOR ITEM 6		DIALCO
	9	1	SECTIONAL TERMINAL BOARD 36 POINTS TYPE A-1		G.S. CE-151 A155
	10	X	12/CONDUCTOR CABLE TYPE A1EE-45 1CSB #16 AWG. (1.024) O.D.		GAUBERT 1CSB-12
	11	X	8/CONDUCTOR CABLE TYPE A1EE-45 1CSB #16 AWG. (.885) O.D.		GAUBERT 1CSB-8
	12	X	3/CONDUCTOR CABLE TYPE A1EE-45 TV18 #12 AWG. (.777) O.D.		GAUBERT TV18-6 GAUBERT
	13	X	2/CONDUCTOR CABLE TYPE A1EE-45 DV18 #12 AWG. (.735) O.D.		GAUBERT DV18-6
	14	25'	SINGLE CONDUCTOR INTERIOR WIRE TYPE #12W NE 1/4 AWG.		GAUBERT
	15	1	MALE TERMINAL TURE 1/4" P.S.		M-100 GAUBERT
	16	1	MALE TERMINAL TURE 1/4" P.S.		M-100 GAUBERT
	17	2	MALE TERMINAL TURE 3/4" P.S.		M-038 GAUBERT
	18	2	MALE TERMINAL TURE 3/4" P.S.		GAUBERT M-038
	19	150"	LAMINATED PHENOLIC		

REFERENCE DRAWINGS

SHT. NO.	TITLE
601	ELECTRICAL SCHEMATIC DIAGRAM
602	WIRING DIAGRAM
603	ELECTRICAL ARRANGEMENT OF MACH. & STORAGE COMPARTMENTS
605	SECTIONS, ELEVATIONS & DETAILS
606	HYDRAULIC & ELECTRICAL CONTROL BOX LAYOUT & DETAILS



MONO-MOORING SYSTEM

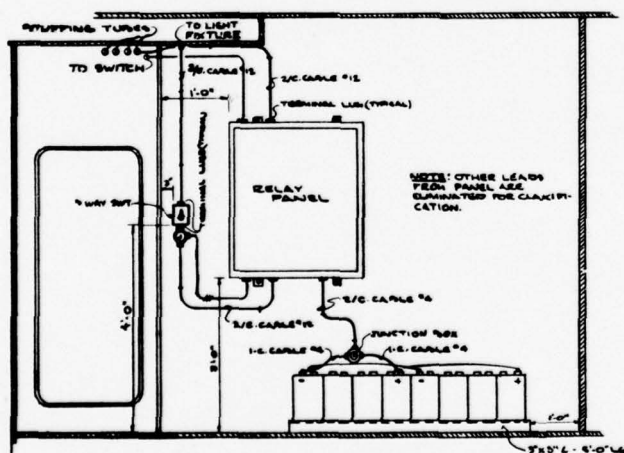
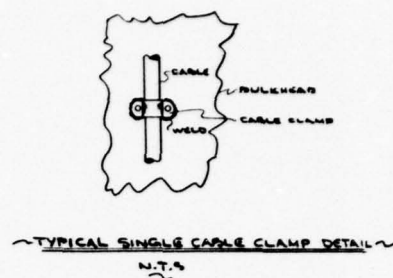
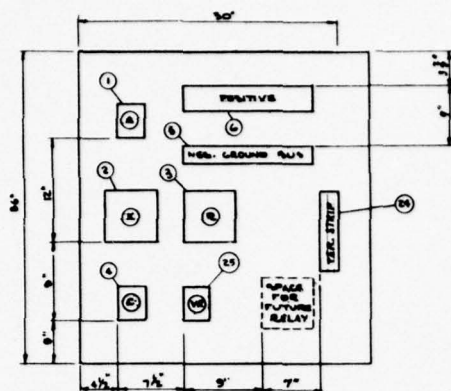
FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS NEW ORLEANS, LA. CONTRACTORS

PROJECT	DATE
DESIGNED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

DRIVEN BY	SCALE	DATE	PROJECT NO.
A. C. COO	AS SHOWN	10-6-64	UQA-297
FABRICATOR JOB NO.		J. RAY McDERMOTT JOB NO.	SHEET NO.
		56017	604

ELECTRICAL ARRANGEMENT IN CONSOLE

[illegible]

DETAIL 1
SHT. 603
N.T.S.

<u>BILL OF MATERIAL</u>					
FILED SYM.	FINO NO	QTY	NOMENCLATURE	SPEC	CAT. A.G.
	1	1	RELAY BSR #2E 24V. COIL 30A		ALLEN BRADLEY 711-145-1E
	2	1	RELAY 24V D.C. 40A. 2P 230		ALLEN BRADLEY 711-145-1E
	3	1	TIME DELAY RELAY 2P 230V 1/2 IN. 1/2 IN. CONTACT		ALLEN BRADLEY 711-145-1E
	4	1	RELAY 24V D.C. 30A. 2 N.O. 1 A.C. CONTACTS		ALLEN BRADLEY 711-145-1E
	5	1	CONVEYER COIL AND BLS WITH 2 BOX TYPE TERMINALS		
	6	1	TERMINAL BOARD 1/2 IN. 1/2 IN. CLIPS		C.S. 1/2 IN. 1/2 IN.
	7	1	VAPOR TIGHT TYPE VPH RESISTANT LIFT FIXTURE 200V. D.C. 1 1/2 HLBS		GEORGE VPH 200V
	8	8	CABLE STRAP - STEEL CONSTRUCTION AS SHOWN		OCEANIC
	9	150	TWO HOLE BULKHEAD TYPE STRAP FOR CABLE SIZE 730 O.D.		OCEANIC 55615
	10	60	TWO HOLE BULKHEAD TYPE STRAP CABLE SIZE 719 O.D.		OCEANIC 55615
	11	25	TWO HOLE BULKHEAD TYPE STRAP FOR CABLE SIZE 1400 1/2 O.D.		OCEANIC 55715
	12	15	TWO HOLE BULKHEAD TYPE STRAP FOR CABLE SIZE 1100		OCEANIC 55705
	13	50	TWO HOLE BULKHEAD TYPE STRAP FOR CABLE SIZE 1100		OCEANIC 55605
	14	10	TWO HOLE STRAP FOR CABLE SIZE 1410 O.D.		
	15	40	TWO HOLE STRAP FOR CABLE SIZE 1247 O.D.		
	16	3	TERMINAL TUBE 1/2 IN.		QUABERT N-500
	17	60	TERMINAL TUBE 3/4 IN.		QUABERT N-500
	18	40	TERMINAL TUBE 1" I.P.S.		QUABERT N-500
	19	25	TERMINAL TUBE 1 1/2" I.P.S.		QUABERT N-500
	20	10	TERMINAL TUBE 1 3/4" I.P.S.		QUABERT N-500
	21	10	TERMINAL TUBE 1 3/4" I.P.S.		QUABERT N-500
	22	10	STUFFING TUBE FOR 1 3/4" I.P.S.		QUABERT N-500
	23	5	STUFFING TUBE FOR 1 3/4" I.P.S.		QUABERT N-500
	24	1	1/2 POINT TERMINAL STRIP		
	25	1	VOLTAGE SENSOR RELAY 20V (250 1/2 IN. SWITCH ONLY)		A.W. HARRIS PE 55105

REFERENCE DRAWINGS	
SHT. NO.	TITLE
603	ELECTRICAL ARRANGEMENT OF PANEL STORAGE COMPARTMENTS

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MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

ORDER BY	DATE	DATE	PRODUCT NO.
10-10-10	10-10-10	10-10-10	10-10-10

4. CAGE	26. NUMBER	10. 10-64	0611. 25-11
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APPLICANT'S JOB NO.	J. MAY RE-ENTRY JOB NO.	ENTRY NO.
1-1-1-1	1-1-1-1	1-1-1-1

				56817	634
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ELECTRICAL - SECTIONS, ELEVATIONS, DATA

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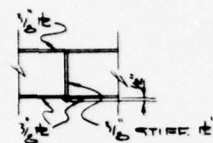
ELECTRICAL - SECTIONS, ELEVATIONS & DETAILS

800 - STRUCTURAL

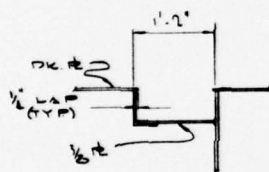


TOP DECK FRAMING PLAN

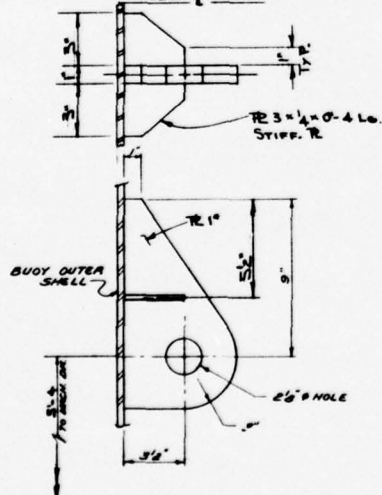
SECTION A-A
SCALE: 3/4" = 1'-0"



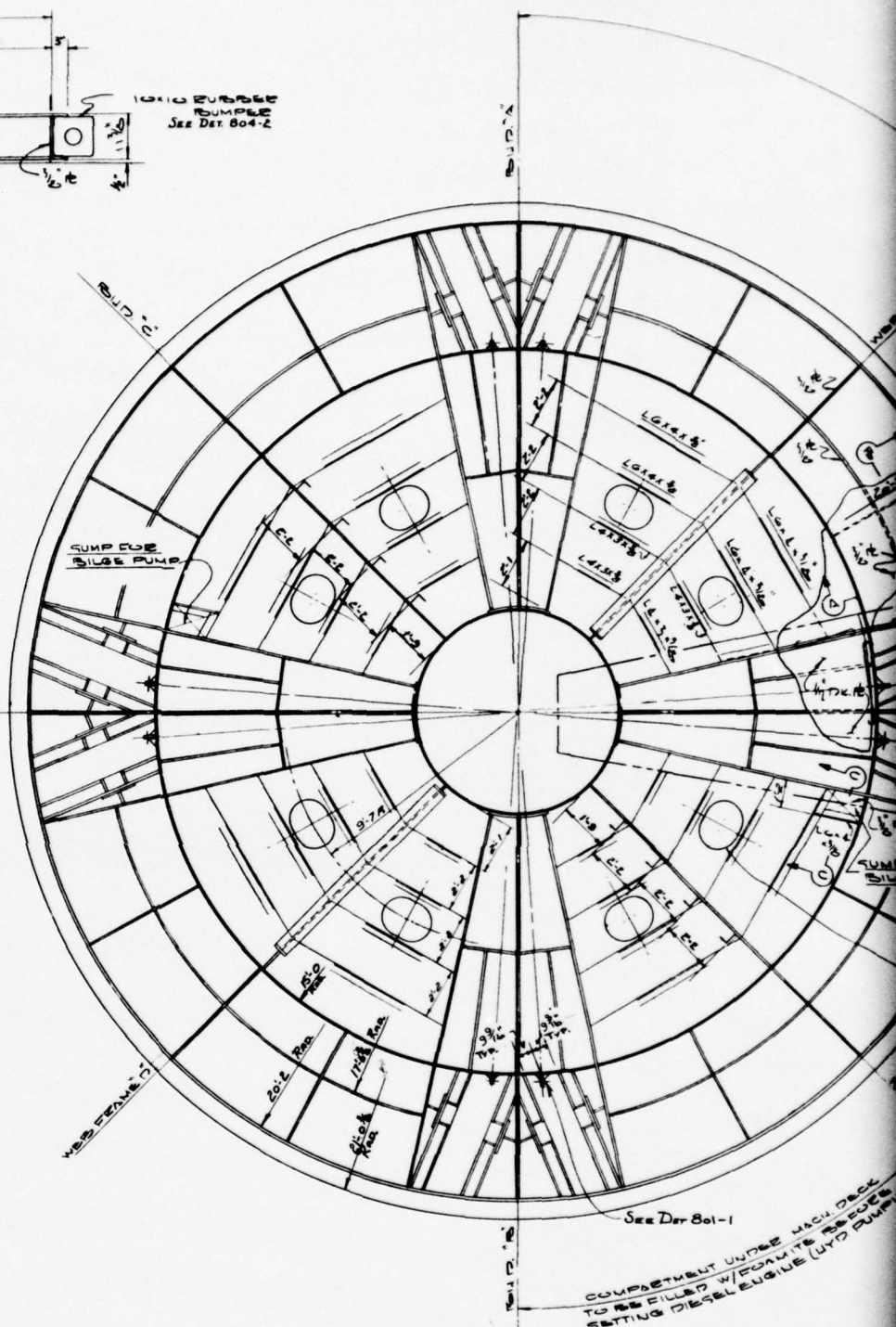
SECTION B-B
SCALE: 1/4" = 1'-0"



SECTION C-C
SCALE: $\frac{1}{4}'' = 1'-0''$

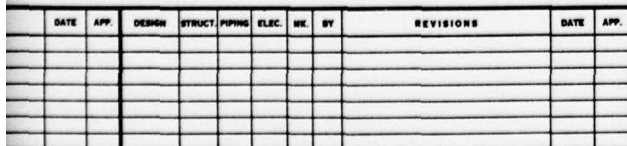


DETAIL "801-1"
2-BED
2" = 1'-0"
(SEE SHEET 900)



MACHINERY DECK
FRAMING PLAN
SCALE: $\frac{3}{4}" = 1' - 0"$

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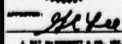


2

FIND Nº	DWG Nº	QTY	NOMENCLATURE	SPEC.	MAT'L

RUN#	TITLE
501	OUTBOARD PROFILE - SECTION THEY RUSH
504	MISCELLANEOUS DETAILS
509	MISCELLANEOUS DETAILS
506	BULKHEAD DETAILS 21/2" 1"
500	TOP DECK FRAMING PLAN
500	LAUNCHING ARRANGEMENT

ALL STEEL TO BE ASTM A7 EXCEPT AS NOTED

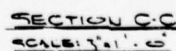


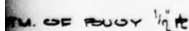
FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

ENGINEERS NEW ORLEANS, LA. CONTRACTORS

ENGINEERS APPROVAL		ENGINEERS		NEW ORLEANS, LA		CONTRACTORS	
PROJECT	DATE	DESIGN BY	SCALE	DATE	PROJECT NO.		
PROJECT	1/25/66	ROSS & TONY	NOTED	6-9-69	USA 2871		
APPROVAL	S.A. 28-28-66	FABRICATORS JOB NO.	56017	1 DAY SECURITY JOB NO.	001		
DESIGNER							
REVISION							
DATE							
BY							
FOR	1/25/66	MACHINERY DECK FRAMING PLAN					

MACHINERY DECK FRAMING PLAN

[illegible]

2

NOTES:
ALL STEEL TO BE ASTM A7 EXCEPT AS NOTED



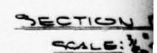
FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

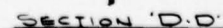
J. RAY Mc DERMOTT & CO., INC.

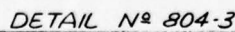
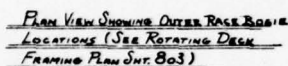
EXPEDIENT		NEW ORLEANS, LA.		CONTRACTORS	
SHIPPED BY	SCALE	DATE	PROJECT NO.		
FRANCHINA	NOTED	8-9-65	USA-2971		
PUBLICATIONS JOB NO.	1 MAY SECURITY NO.		JOB NO.		
56017			502		

BOTTOM FRAMING PLAN

[illegible]

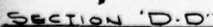
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[illegible]



SHT. № 801

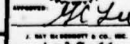
2: 1-6

[illegible]

RTU#	TITLE
001	OUTWARD PROFILE-SECT.TUEY BUOY
007	PLAN & TOP OF ROTATING DECK
001	MACH. DECK FRAMING PLAN
009	MISC. DETAILS
090	CHAIN STOPPER DETAIL SHT. NO.2
003	ROTATING DECK FRAMING PLAN

NOTES:

ALL STEEL TO BE ASTM A7 EXCEPT AS NOTED



DATE 1-28-66

ENGINEERS' APPROVAL		
	BY	DATE

PROJECT	AKS	1-28
STRUCTURAL	J.F.A.	11-8-4

PROCESS		
MECHANICAL		

ELECTRICAL		
MECHANICAL		

REP. CHIEF		
PAID. CHIEF	6-15	9-15
PAID. CHIEF		

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.
ENGINEERS CONTRACTORS

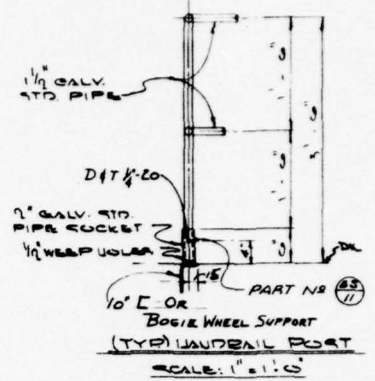
NEW ORLEANS, LA.			
DRAWN BY	SCALE	DATE	PROJECT NO.

2095	NOTEN	9.30.64	USA 7971
------	-------	---------	----------

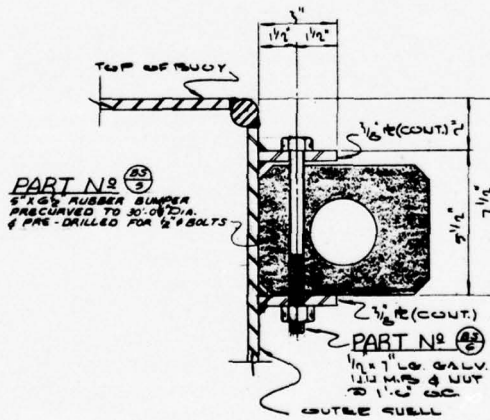
LABRICATOR'S JOB NO.	566217	J. RAY McDERMOTT JOB NO.	566217
----------------------	--------	--------------------------	--------

[illegible]

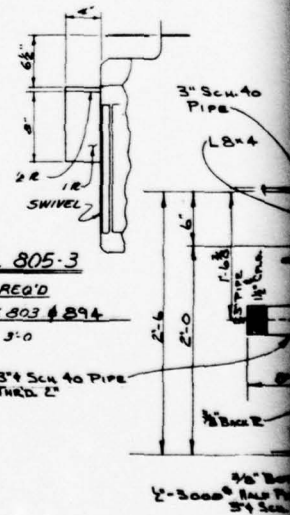
MISCELLANEOUS DETAILS



PLAN

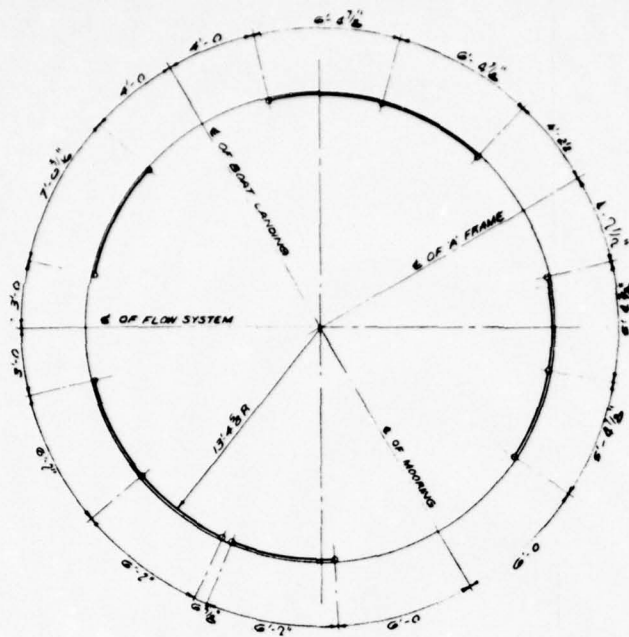


2 - REQ'D
SHT. 803 & 894
1 1/2" x 3" 0

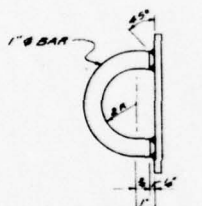


DETAIL 005-2
SCALE: 3/8" = 1"
SHEET NO. 006

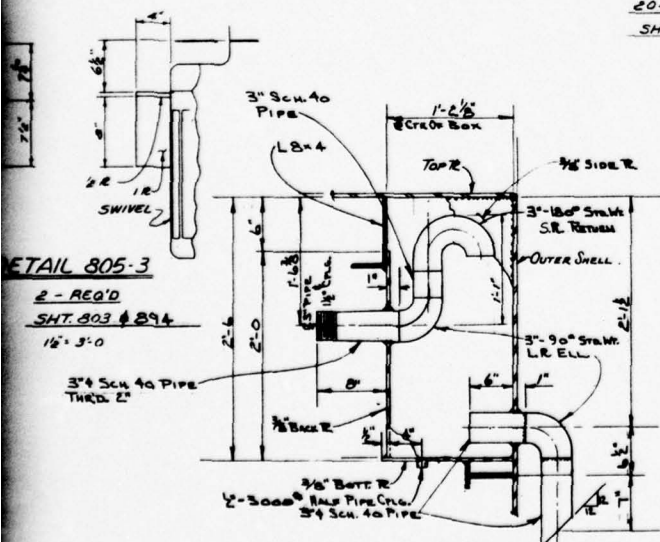
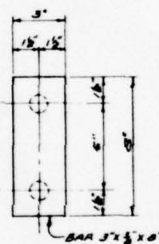
[illegible]



4.10



PART NO (85)
PAD EYE
20-REQD
SHT 803
3'-1'-0



SECTION 805-F
SHEET 800 ~ SCALE 1 1/2" = 1' 0"

[illegible]

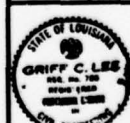
2.

[illegible]

FIGURE	TITLE
601	OUTBOARD PROFILE - SECT. THRU BUOY
604	MISC. DETAILS
606	OUTBOARD DETAILS "UP"
800	TOP DECK FRAMING PLAN
814	MONO MOORING SYSTEM SWIVEL TO BUOY CONNECTION
803	ROTATING DECK FRAMING PLAN

NOTES:

ALL STEEL TO BE ASTM A7 EXCEPT AS NOTED



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

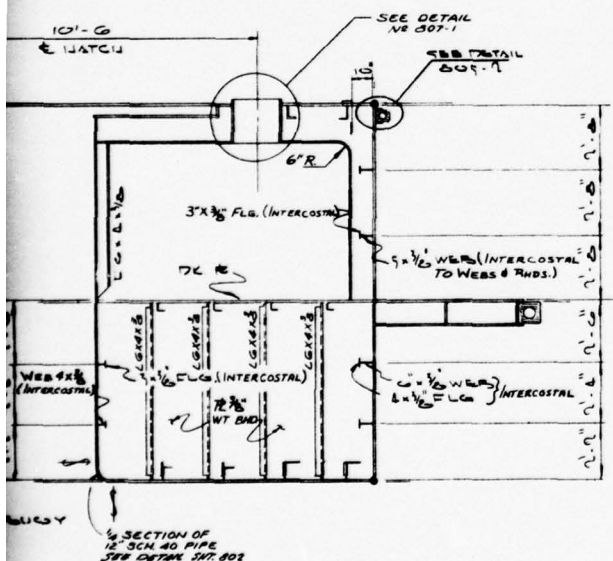
J. RAY Mc DERMOTT & CO., INC.

NEW ORLEANS, LA.

NAME OF	SCALE	DATE	REMARKS
ROSS & TONY	NOTE	6-29-69	USA 2911
FABRICATORS JOB NO.	96017	12111111111111111111	005

MISCELLANEOUS DETAILS

[illegible]



BILL OF MATERIAL

FIND NR	DWG NR	QTY	NOMENCLATURE	SPEC	MAT'L

REFERENCE DRAWINGS

SUT. NO.	TITLE
001	OUTDOOR PROFILE SECTION BUDY
002	TOP DE FRAMING PLAN
003	MACH. DE FRAMING PLAN
004	BOTT. DE FRAMING PLAN
005	MISC DETAILS
007	BUD. DETAILS SUT. "Q"
008	MISC DETAILS

NOTES:

ALL STEEL TO BE ASTM A7 EXCEPT AS NOTED



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.

ENGINEERS

NEW ORLEANS, LA.									
DATE	BY	TIME	DATE	BY	TIME	DATE	BY	TIME	DATE

2095 44-1-01 6-9-65 USA 2971

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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565217		565217
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[illegible]

BULKHEAD DETAILS WILL

[illegible]

A hand-drawn diagram of a rectangular block. The block is labeled "Block 2" with a curved arrow pointing to it. The block has a width of 1.0 m and a height of 0.5 m. The top surface is labeled "Top 2" and the bottom surface is labeled "Bottom 2". The block is positioned on a horizontal surface, and a vertical line is drawn to its right.

A hand-drawn technical sketch of a web frame assembly. The drawing shows a side view of a structure with a central rectangular opening. Dimensions are indicated with arrows and handwritten text:

- Top horizontal dimension: $10' - 6''$
- Right horizontal dimension: $1' - 6''$
- Left vertical dimension: $1' - 7 \frac{1}{2}''$
- Inner vertical dimension: $5' - 11 \frac{1}{2}''$
- Inner vertical dimension: $1' - 0 \frac{1}{2}''$
- Label: "3" SNIPER OPTIC" with an arrow pointing to a small rectangular feature on the left side of the central opening.
- Label: "WEB FRAME" with an arrow pointing to the right side of the structure.
- Label: "BUDY" with an arrow pointing to a small circular feature on the far left.

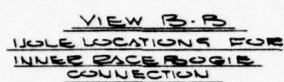
[illegible]


Technical drawing of a propeller shaft assembly. The drawing includes a side view on the left and a cross-section view on the right.

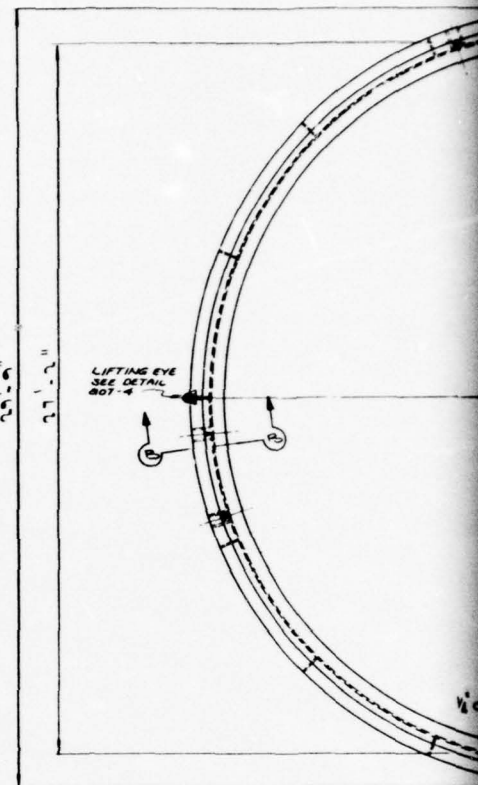
Side View (Left): Shows the shaft with a central section of length 6" and a total length of 8". A vertical support structure is shown on the left.

Cross-section View (Right): Shows the shaft with a central section of length 6" and a total length of 8". The shaft is supported by a vertical structure on the right. The cross-section shows a central hole with a diameter of 1 1/2" and a surrounding ring with a thickness of 1/2". The shaft is labeled "1/2\" CROWN R-7" and "1/2\" STIFFENER". A note indicates "OUTER RACE SEE SHT. #09".

[illegible]

[illegible]

 <p>STATE OF LOUISIANA GRUFF C. LEE ARE NO. 782 REGISTERED GEODESIC ENGINEER IN CIVIL ENGINEERING</p>	<p align="center">MONO-MOORING SYSTEM</p>	
	<p align="center">FOR U.S. ARMY ENGINEER RESEARCH & DEVELOPMENT LABORATORIES FORT BELVOIR, VIRGINIA</p>	
	<p align="center">J. RAY Mc DERMOTT & CO., INC.</p>	
	<p align="center">ENGINEERS NEW ORLEANS, LA. CONTRACTORS</p>	
<p>APPROVED: <i>Mc Lee</i></p>	<p>J. RAY Mc DERMOTT & CO., INC.</p>	
<p>DATE: 1-25-66</p>	<p>ENGINEERS APPROVAL</p>	
<p>PROJECT: <i>2099 UCA 2971</i></p>	<p>SCALE: <i>1" = 20'</i></p>	<p>DATE: <i>1-25-66</i></p>
<p>SYMBOLS: <i>U.C.A. 2971</i></p>	<p>NO.: <i>2099</i></p>	<p>PROJECT NO.: <i>U.C.A. 2971</i></p>
<p>REVISIONS:</p>	<p>DATE:</p>	<p>BY:</p>
<p>ELECTRICAL:</p>	<p>NO.: <i>90017</i></p>	<p>J. RAY Mc DERMOTT & CO., INC.</p>
<p>INTERVIEW:</p>	<p>DATE:</p>	<p>BY: <i>U.C.A.</i></p>
<p>FILE COVER: <i>2099</i></p>	<p align="center">INDEXED PAGE</p>	
<p>FILE COVER:</p>	<p align="center">ROCK WHEEL SUPPORT</p>	

[illegible]

1'-2 15/16"

1'-0 5/16"

3/4"

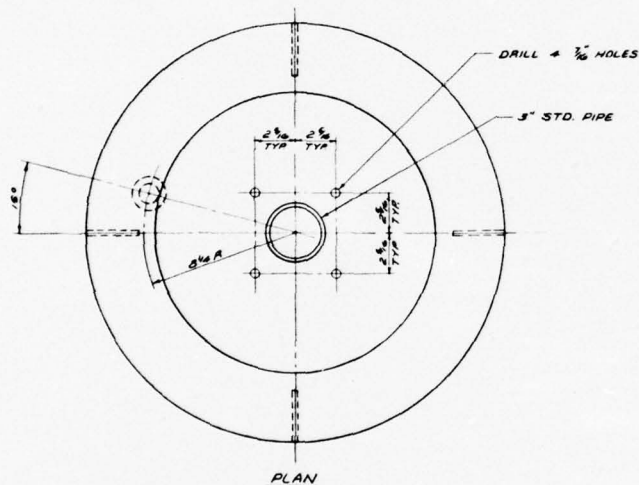
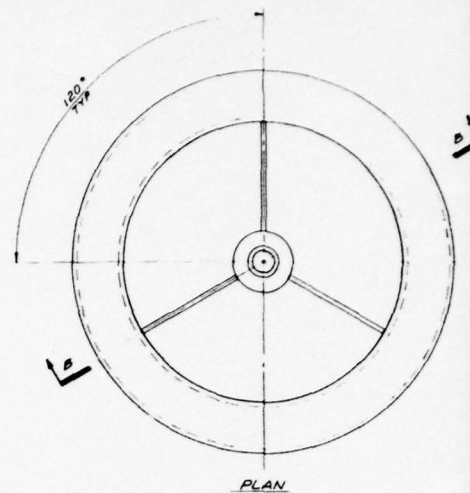
9 1/2"

(CONT. EXCEPT AT INSERT 7E)

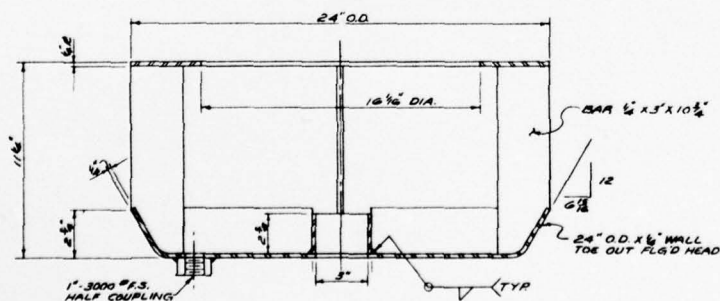
SECTION

SCALE

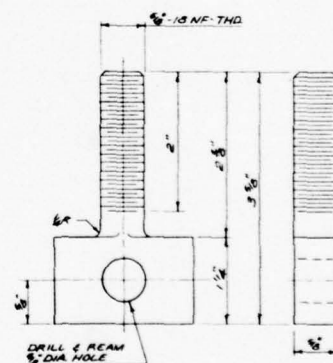
[illegible]



PLAN



PART NO $\frac{VS}{S}$
NO REQ'D-1
MAT'L-MILD STEEL
3" x 1'-0"



PART N^o VS
10
N^o REQ'D - 2
MAT'L - BRONZE

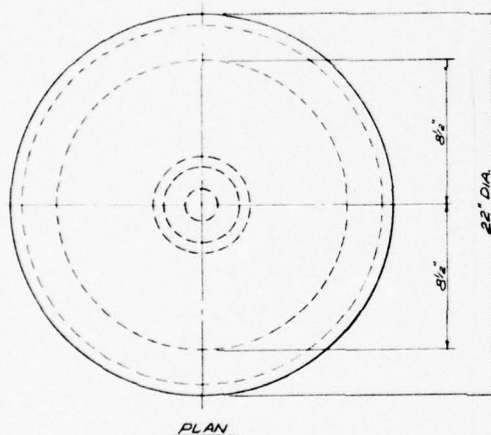
SCALE: FULL

NOTE:
THIS
UNTIL
INSTA
BORE.

[illegible]




ART No $\frac{VS}{4}$
REQ'D-1
T'L-MILD STEEL
3" x 1'-0"



Nº $\frac{15}{10}$
D'D-2
BRONZE

SALE: FULL

NOTE:
THIS WELD NOT TO BE MADE
UNTIL PART NO V5.9 IS
INSTALLED IN COUNTER
BORE. SEE ASSEMBLY —

PART N^o 
N^o REQ'D-2
MAT'L - MILD STEEL

$$g'' = f' - 0$$
[illegible][illegible]

REFERENCE DRAWING	
SHEET NO.	TITLE
811	VENTILATION SYSTEM
800	TOP DECK FRAMING PLAN



MONO-MOORING SYSTEM

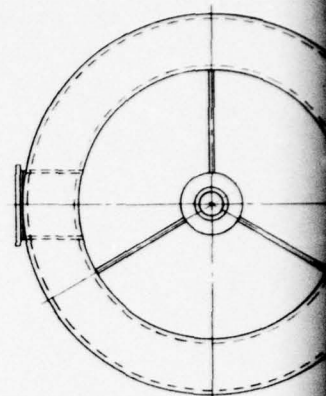
FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.
ENGINEERS

NEW ORLEANS, LA.			
SHAWN BY	SCALE	DATE	PROJECT NO.
RANCHINA	NOTED	7-14-85	USA 2871
LABORATORY JOB NO.	J DAY IN DEPOSIT JOB NO.		SHEET NO.
56017			310

VENTILATION SYSTEM

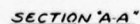




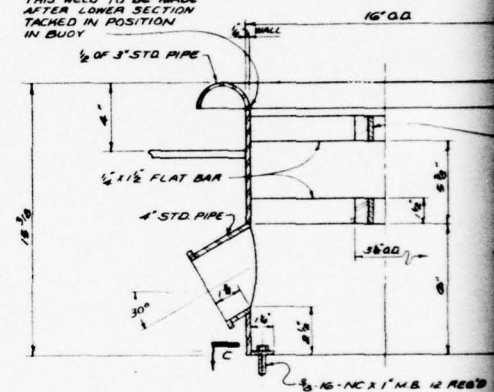
ONE REQ'D



PLAN

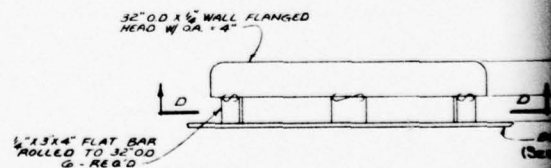


NOTE:
THIS WELD TO BE MADE
AFTER LOWER SECTION
TACKED IN POSITION
IN BUOY



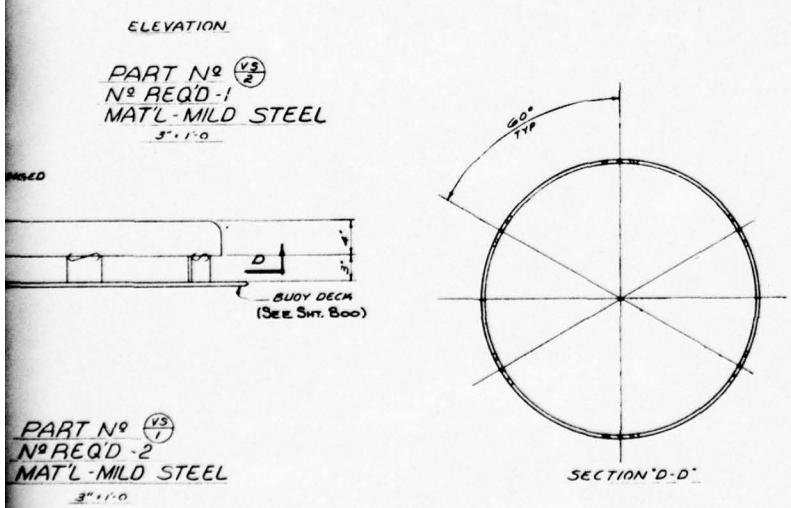
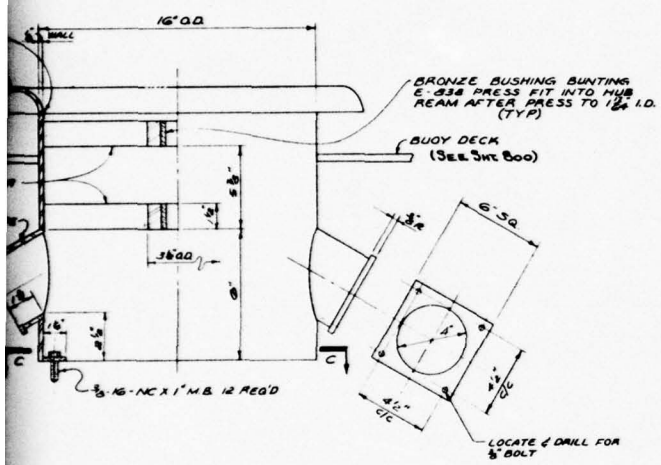
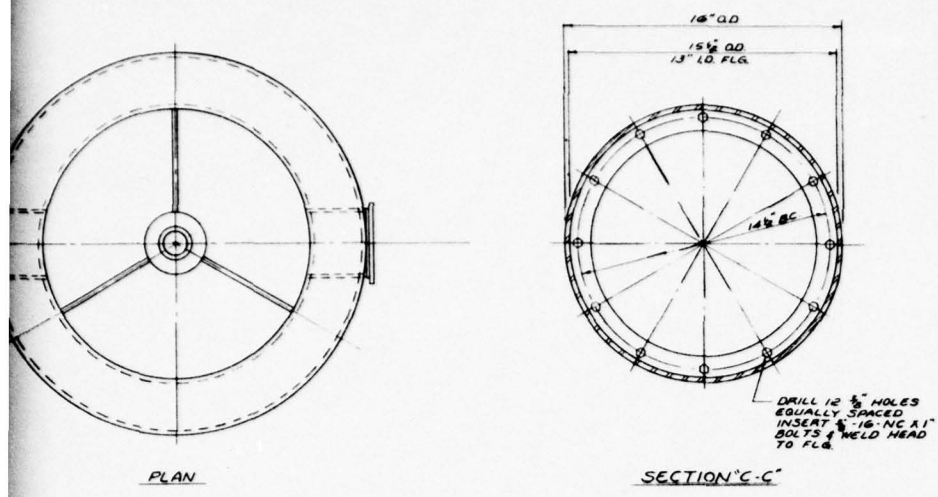
ELEVATION

PART N^o $\frac{V3}{2}$
N^o REQ'D - 1
MAT'L - MILD ST
3" x 1" 0



PART NO VS
1
NO REQ'D - 2
MAT'L - MILD STEEL
3" x 1'-0"

[illegible]



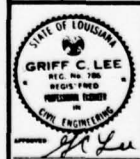
NO.	DATE	APP.	DESIGN	STRUCT	PIPING	ELEC.	ME.	BY	REVISIONS	DATE	APP.

BILL OF MATERIAL

FIND NR	DWG NR	QTY	NOMENCLATURE	SPEC.	MAT'L
VS-1	B11	2	CAP		MILD STEEL
VS-2	B11	1	BODY		MILD STEEL
VS-3	B11	1	COVER R		MILD STEEL
VS-6	SEE SHT 010		DISC		MILD STEEL
VS-7	B11	2	EJ WALLIS MODEL A-108 24 VOLT D.C.		
VS-8	B11	2	SOLENOID		
VS-9	SEE SHT 010		STEM		TYPE 316 SS
VS-10	SEE SHT 010		CLEVIS		BRONZE
VS-11	SEE SHT 010		LOCKNUT 5/8-18 NF		BRONZE
VS-12	B11	1	GASKET 16" O.D. X 13" I.D. X 1/2"		NEOPRENE
VS-13	B11	12	COVER BOLT F/NUT 3/8" X 1" - 18 NC		GALV STEEL
VS-14	B11	8	BOLT 5/8" - 18 NC X 1 1/2" W/NUT		GALV STEEL
VS-15	SEE SHT 010		ROLL PIN		SS
VS-16	B11	2	GASKET		1/2" NEOPRENE
VS-17	B11	8	BOLT 3/8" - 18 NC X 1 1/2" W/NUT		AISI-316

REFERENCE DRAWING

SHT NO	TITLE
010	VENTILATION SYSTEM
800	TOP DECK FRAMING PLAN



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS
NEW ORLEANS, LA.
CONTRACTORS

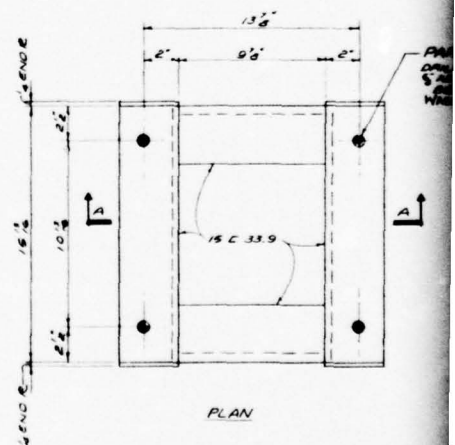
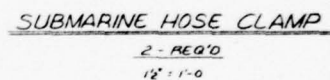
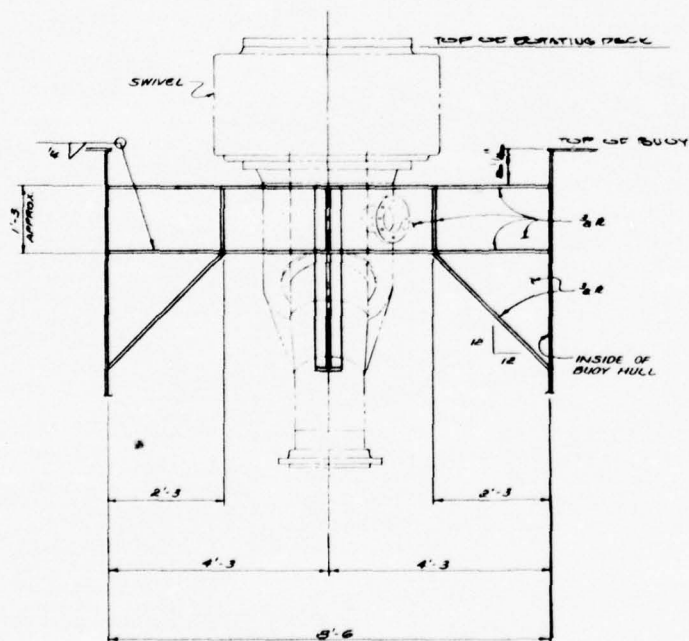
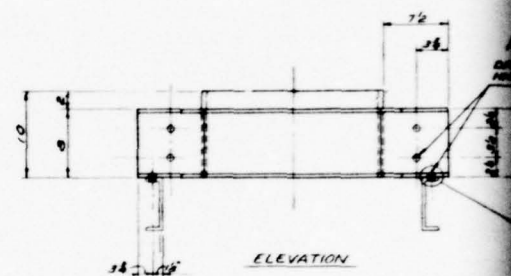
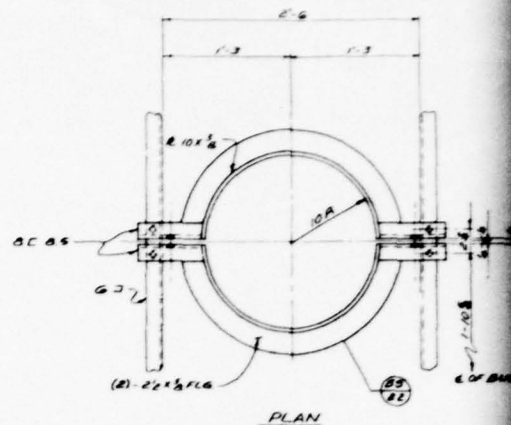
DATE: 1-28-66

PROJECT: VS-1116

FRANCHINA: NOTED

FABRICATOR: 56017

VENTILATION SYSTEM

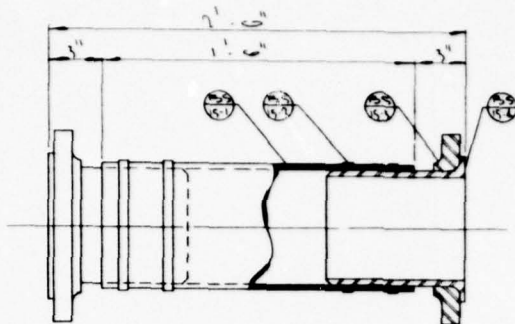


SEE SHT. 874

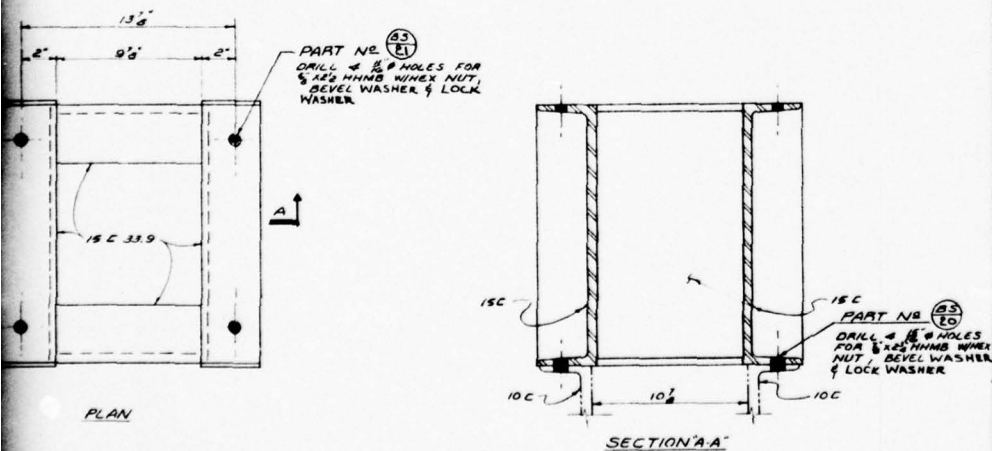
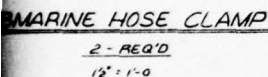
 $\frac{3}{4} = 1 - 0$

② BASE FOR

[illegible]



PART N° 25
19
N° 25001
 SCALE: 3"=1'-0"



DETAIL 812-1
 (B3) BASE FOR 5 TON HAND WINCH

SEE SHT 803

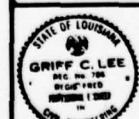
[illegible]

2

FIND NR	DWG NR	QTY	NOMENCLATURE	SPEC	MAT'L
BS-9	B12	8	3/8"x3/8" LG KNURLED W/HT/WHASH	ASTM A315	(GRALV)
BS-15	B12	1	WELDED TO STUDY OUT LINE CONNECTION		ALUMIN
BS-15	"	1	6"x6" 1/2" THICK BRASS SAND SUCTION HOSE		
BS-17	"	6	1/2"x3/8" LG - OPEN END PUNCH LOCK CLAMPS		SS
BS-17	"	2	6"x1/2" 1/2" LG LAP JOINT CLIP		ASTM A161.001
BS-16	"	2	6"x1/2" W/ LAP JOINT STUD BUD		ASTM A161.001
BS-20	"	2	3"x2" KNURLED NUTS AND WASHERS 1/2" LG 1/2" DIA		SS - WPS
BS-21	"	4	3"x2" KNURLED NUTS AND WASHERS 1/2" LG 1/2" DIA		
BS-22	"	4	SUBMARINE NOSE CLAMP		
BS-23	"	1	BASE FOR STON HAND WINCH		STEEL

REFERENCE DRAWING

OWNS NO	TITLE
874	SWIVEL TO BUDY CONNECTION
803	ROTATING DECK FRAMING PLAN



APPROVED: M. Lee

J. RAY & COMPANY, INC.
DATE: 1-28-66
ENGINEERS APPROVAL

	ST	DATE
PROJECT 1	<i>[Signature]</i>	1-27-82
STUDENT TOTAL	J.C.A.	1-27-82
ADVISOR		

MECHANICAL	
ELECTRICAL	
INSTRUMENT	

PAB CHOC	52	53-4
PDP CHOC		

MONO-MOORING SYSTEM

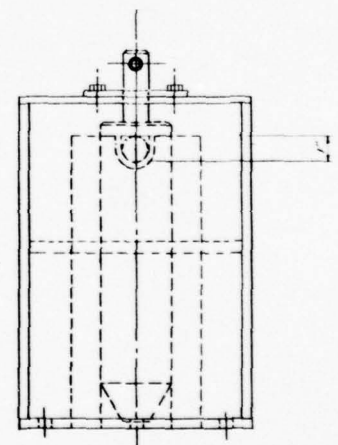
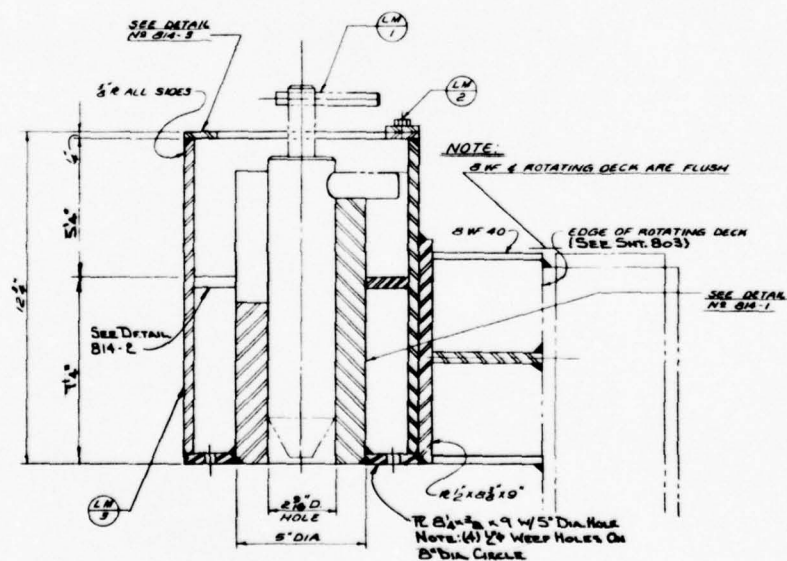
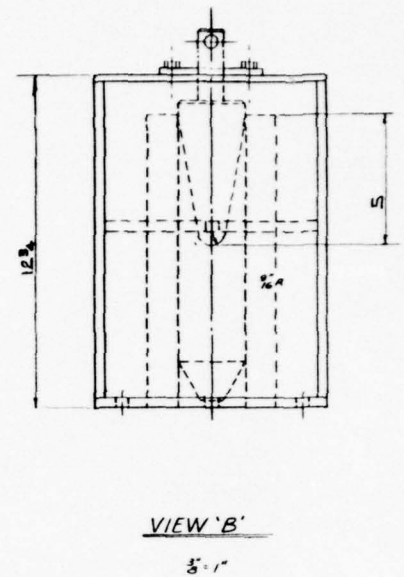
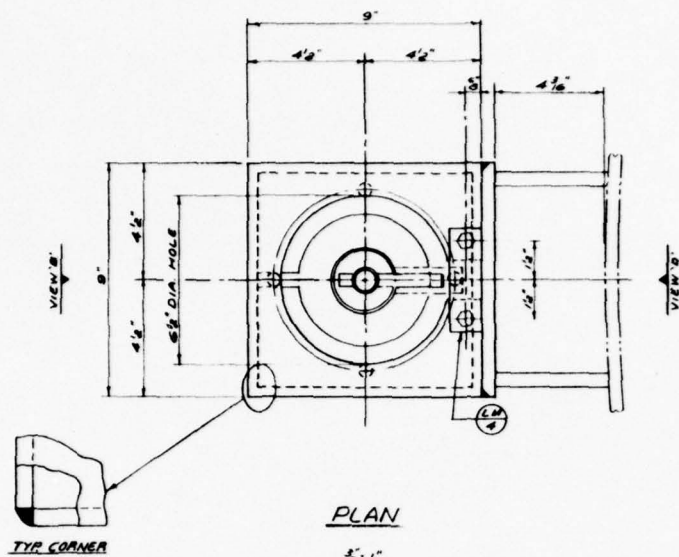
FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

NEW ORLEANS, LA.			
DRAWN BY	SCALE	DATE	PROJECT NO.
FRANCHINA	NOTED	7-22-65	USA 2971

PAGE NO.	56017	DATE OF DEPOSIT	012
----------	-------	-----------------	-----

MISCELLANEOUS DETAIL



SECTION
MAT'L - MILD STEEL - GALV AFTER FAB
2-REQ'D
3" = 1'

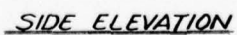
VIEW 'D' WITH
8 WF & 2" R REMOVED

$\frac{3}{8} = 1"$

[illegible]

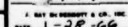
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[illegible]

[illegible]



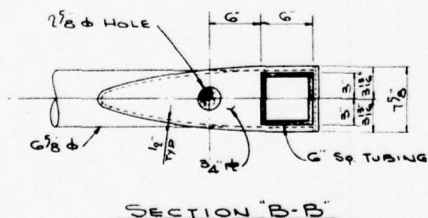
PLANS	DATE	AND
-------	------	-----

2[illegible]

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

'A' FRAME ASSEMBLY

[illegible]



A hand-drawn diagram of a rectangular structure. The top horizontal edge is labeled '2.6'. The left vertical edge is labeled '2.4'. A vertical line on the right side is labeled '1'.

2 1/2" STAIN STL
BAR
4 HOLES

PART No. 5L
3
ONE-REQD

(Req'd.)

PIPE

 $5 \times 45^\circ$ [illegible]


BILL OF MATERIAL

[illegible]

REFERENCE DRAWINGS

SMT. NO.	TITLE
B15	'A' FRAME ASSEMBLY
B17	'A' FRAME DETAILS SMT. 2



APPROVED: 

DATE: 1-28-66

ENGINEERS APPROVAL	
BY	DATE

PROJECT	GRS	1-27-66
---------	-----	---------

PRODUCT	I.C.A. 10-200
PROCESS	

Mechanical		
Electrical		

INDEPENDENT		
PAY CHECK	924	534

PROP. CHECK		
-------------	--	--

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

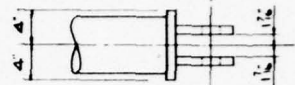
NEW ORLEANS, LA.

DESIGN BY F.B.	SCALE 1 1/2" = 1'-0"	DATE 6-21-65	PROJECT NO. USA-2971
-------------------	-------------------------	-----------------	-------------------------

ABRICATORS JOB NO.	J DAY IN REMOVAL JOB NO.	SHEET NO.
	56017	210

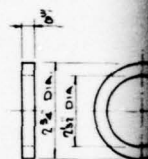
		36811	816
--	--	-------	-----

A' FRAME DETAILS SHY. 1

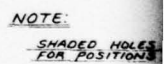


Technical drawing of a mechanical part, likely a bracket or support. The drawing shows a side view with the following dimensions and features:

- A vertical dimension of $3\frac{1}{4}$ inches on the left side.
- A horizontal dimension of $1\frac{1}{2}$ inches at the bottom left.
- A sloped surface with an angle of 20° indicated by an arrow.
- A horizontal dimension of 5 inches at the bottom right.
- A circular feature on the right side, possibly a hole or a flange, with a dashed line indicating a hidden edge.



PART NO.
B. 2200

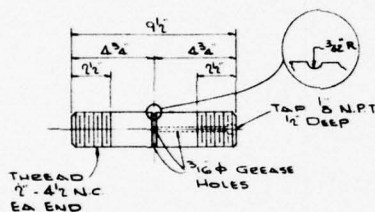


NOTE:
SHADED HOLES
FOR POSITION

[illegible]



PART NO. SL
10
B. REOD



PART No. 9
G-2500
MATL: 21 STAINLESS STEEL COMMERCIAL
GROUND STOCK

SHADED HOLES INDICATE BOLT HOLES
FOR POSITIONS "A, B & C"

J. BAY & BERGOTT & CO. 1911
1-28-66

ENGINEER'S APPROVAL

DATE	BY	NO.
10-10-11	11	11

PROJECT	423	154
STRUCTURAL	S.C.A.	0.3

FOUR ONE		
WIDE WAVE AL		

ELECTRONIC		
INSTUMENT		

FAB CODE		
PODP CODE		

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

ENGINEERS NEW ORLEANS, LA. CONTRACTORS

DRAWN BY	SCALE	DATE	PROJECT NO.
E. B.	1/2" = 1'-0"	11-2-55	100-203

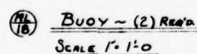
F.B.I.	2184 Noted	8-11-65	USA-7411
LABORATORY JOB NO.		DATE RECEIVED	TEST NO.

		56017	817
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A' FRAME DETAILS SHT. 2


825 - MOORING

[illegible]

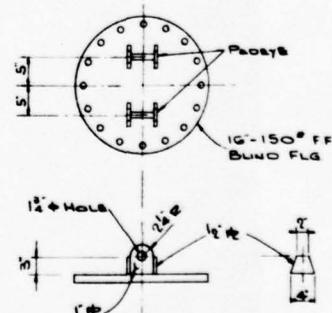
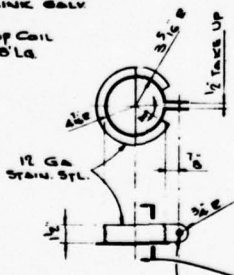
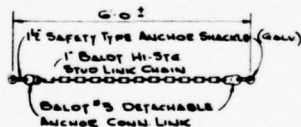
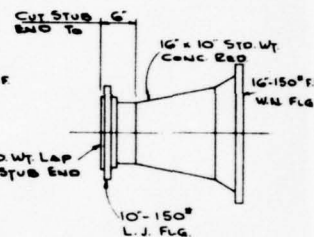
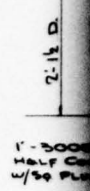
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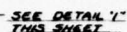
REFERENCE DRAWINGS	
SHT. NO.	TITLE
027	MOORING SYSTEM

[illegible]

 <p>STATE OF LOUISIANA GRIFF C. LEE REG. NO. 790 REG. EX. 100 EXPIRING 1 JUNE 1961</p>	<p align="center">MONO-MOORING SYSTEM</p>																																																																												
	<p align="center">FOR</p>																																																																												
	<p align="center">U.S. ARMY ENGINEER RESEARCH & DEVELOPMENT LABORATORIES</p>																																																																												
	<p align="center">FORT BELVOIR, VIRGINIA</p>																																																																												
<p>APPROVES: <i>JCL</i></p> <p>I SAY IN WITNESS T. ME. THIS DATE: 1-28-61</p>	<p align="center">J. RAY Mc DERMOTT & CO., INC.</p>																																																																												
<p>ENGINEERS APPROVAL</p>	<p>ENGINEERS</p>	<p>NEW ORLEANS, LA.</p>	<p>CONTRACTORS</p>																																																																										
<table border="1"> <tr> <td>PROPERTY</td> <td><i>255-1234</i></td> <td>DESIGN BY</td> <td><i>S Bulliory</i></td> <td>SCALE</td> <td><i>As Shown</i></td> <td>SHEETS</td> <td><i>8-25-61</i></td> <td>FIGURED BY</td> <td><i>U.S.A. 2571</i></td> </tr> <tr> <td>PROJECT</td> <td><i>S.C.A. 10.3260</i></td> <td>FABRICATOR</td> <td><i>JOB NO.</i></td> <td><i>56017</i></td> <td>I SAY IN WITNESS T. ME. THIS</td> <td>DATE</td> <td><i>1-28-61</i></td> <td>TESTED BY</td> <td><i>026</i></td> </tr> <tr> <td>PRICE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>MATERIAL</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>ELECTRICAL</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>HEAVYWORK</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>LAB. TESTS</td> <td><i>5-2</i></td> <td><i>5-1-61</i></td> <td colspan="7"></td> </tr> </table>	PROPERTY	<i>255-1234</i>	DESIGN BY	<i>S Bulliory</i>	SCALE	<i>As Shown</i>	SHEETS	<i>8-25-61</i>	FIGURED BY	<i>U.S.A. 2571</i>	PROJECT	<i>S.C.A. 10.3260</i>	FABRICATOR	<i>JOB NO.</i>	<i>56017</i>	I SAY IN WITNESS T. ME. THIS	DATE	<i>1-28-61</i>	TESTED BY	<i>026</i>	PRICE										MATERIAL										ELECTRICAL										HEAVYWORK										LAB. TESTS	<i>5-2</i>	<i>5-1-61</i>								<p align="center">MOORING SYSTEM DETAILS #1</p>						
PROPERTY	<i>255-1234</i>	DESIGN BY	<i>S Bulliory</i>	SCALE	<i>As Shown</i>	SHEETS	<i>8-25-61</i>	FIGURED BY	<i>U.S.A. 2571</i>																																																																				
PROJECT	<i>S.C.A. 10.3260</i>	FABRICATOR	<i>JOB NO.</i>	<i>56017</i>	I SAY IN WITNESS T. ME. THIS	DATE	<i>1-28-61</i>	TESTED BY	<i>026</i>																																																																				
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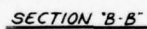
840 - HOSE

[illegible]



12" x 1'-0"


$$1'2'' = 1'-0$$

$$1\frac{1}{2}'' = 1'-0''$$


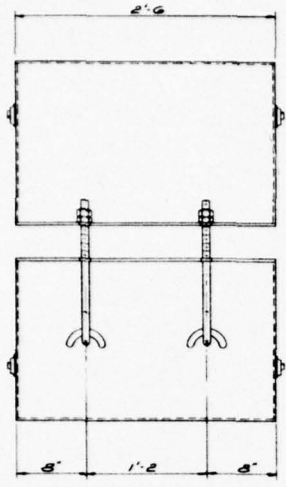
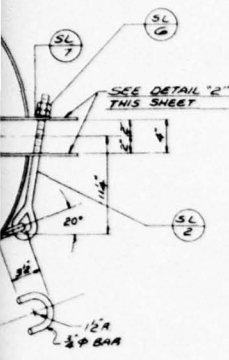
HALF SIZE

 $1\frac{1}{2}^{\circ} \div 1^{\circ} = 0$ 

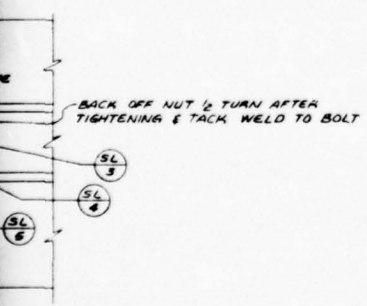
HALF SIZE

[illegible]

102



RIGHT SIDE ELEVATION
1/2" = 1'-0"



BILL OF MATERIAL

FIND NO	DWG NO	QTY	NOMENCLATURE	SPEC	MAT'L
SL-1		4	WESCAM 1/2" DIA. HEAVY PLAT WELDING FLANGE W/ BRONZE SCREW PLUG		DR STEEL
SL-2		2	JOSELYN 1/2" x 1'0" LG EYE BOLT	GALV.	DR STEEL
SL-3		2	5/8" x 10" NUTS	GALV.	
SL-4		2	5/8" HEX NUT	GALV.	
SL-5		4	3/8" ID WASHER	GALV.	
SL-6		4	5/8" HEX HEAD JAM NUT	GALV.	
SL-7		2	3/4" ID WASHER		

REFERENCE DRAWINGS

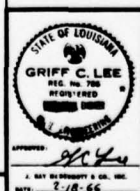
SHT NO	TITLE
B40	HOSE ASSEMBLY

FABRICATION NOTES:

1. ALL STRUCTURAL SHAPES & E TO BE A-36
2. ALL WELDS TO BE SEAL WELDS.
3. AFTER ASSEMBLY DOWTCOTE ALL EXTERIOR SURFACES EXCEPT THREADED PORTIONS OF NUTS & BOLTS.
4. AFTER WELDING IS COMPLETED COAT INSIDE OF FLOAT WITH TERACO COMPOUND "H" OR OTHER APPROVED MUST INHIBITING COATINGS.

INSTALLATION NOTES

1. SUBMERGED WEIGHT OF FLOAT WHEN FULL OF SEA WATER IS APPROXIMATELY 600 LB.
2. NET BUOYANCY OF FLOAT IN SEA WATER WHEN FILLED WITH AIR IS APPROXIMATELY 300 LB.



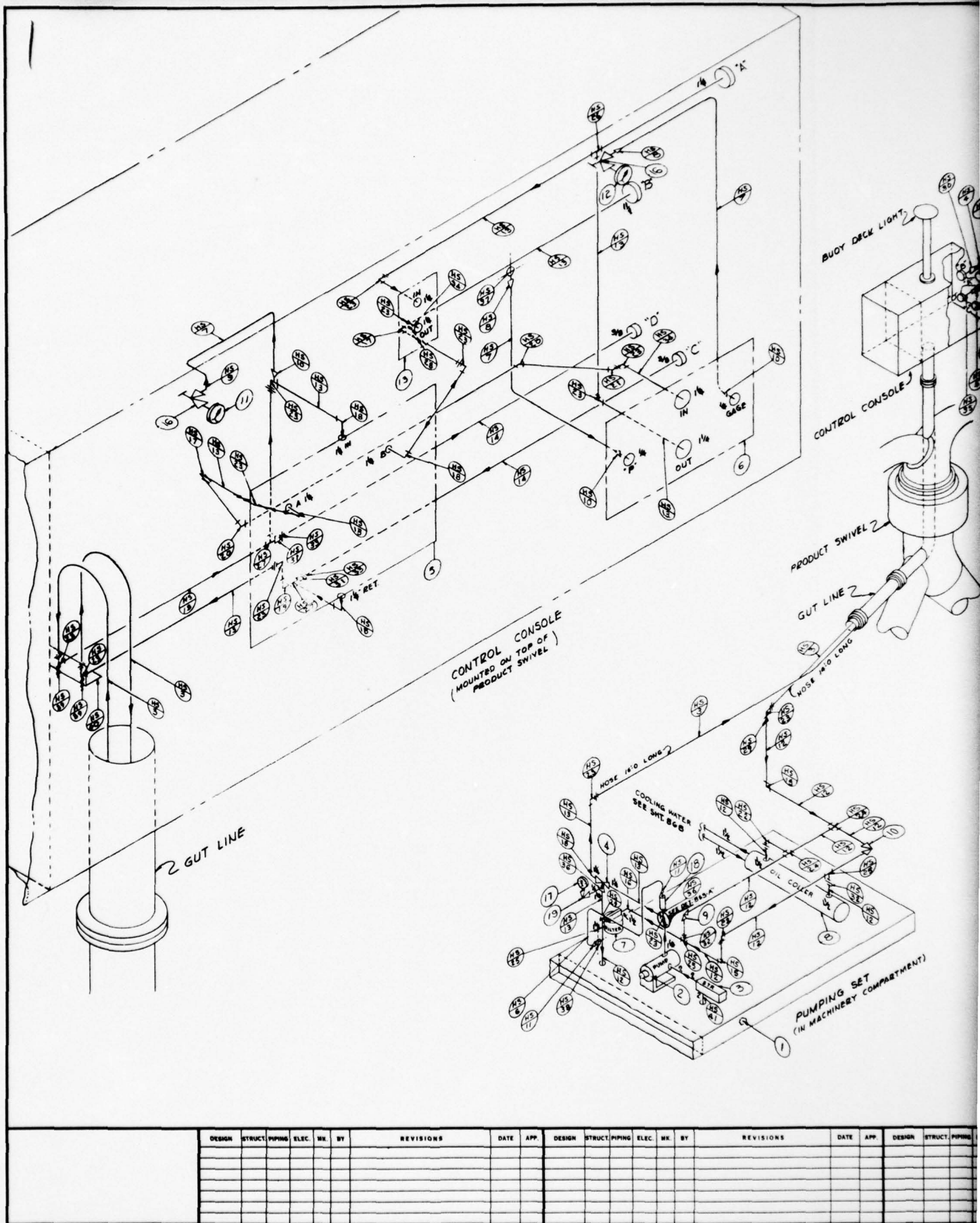
MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
CONTRACTORS

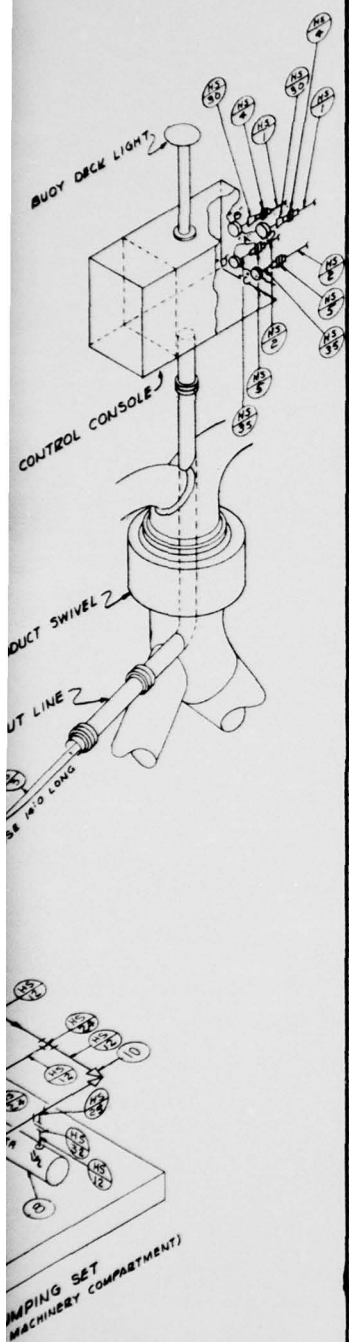
PROJECT	DATE	SCALE	DATE	PROJECT NO.
FRANCHINA	2-18-66	NOTED	2-14-66	USA 2071
FABRICATION JOB NO.	56017	J. RAY McDERMOTT & CO. INC.		843
OPTIONAL STEEL FLOAT FOR SUBMERSIVE HOSE LINES				

860 - MECHANICAL



BILL OF MATERIAL

2



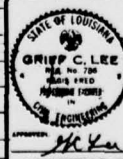
FIND NO.	REF DWG. NO.	QTY	NOMENCLATURE	SPEC.	MAT'L	FIND NO.	REF DWG. NO.	QTY	NOMENCLATURE	SPEC.	MAT'L
1	892		HYDRAULIC OIL RESEVOIR			H5-36	861	1	1/4" X 5" A53, A106, GR. B 3' LG.		
2	892		VICKERS PUMP #35V30A-1C10-131			H5-37		1	1/2" 3000" THREADOLET		
3	892		VICKERS FILTER #30S-149-M-3-P-4			H5-38		1	1/2" 3000" THREADOLET		
4	861	1	VICKERS BALANCED RELIEF VA. 1/2" CT. 10-C-10			H5-39		2	1/2" 1" MACH. BOLT 7/16X NUT		
5	893		VICKERS DIRECTIONAL VALVE #C-1430-C			H5-40		1	1/4" X 3/5" LG. ANGLE IRON		
6	893		VICKERS COUNTER BALANCE VALVE #RCG-10-FPI-10			H5-41		2	2" X 5" A53, A106, GR. B PIPE		
7	861	1	VICKERS OFM SERIES OIL FILTER OFM-202 1/2" PIPE THREAD			19	861	1	CRANE ANGLE NEEDLE VA. #227H FEMALE ENDS 1/4"		
8	892		VICKERS COOLER #OCW-4-10 SPECIAL FOR SEA WATER					2	ARROQUIP DUST CAP PT. 5659-6 STAINLESS STL.		
9	861	1	VICKERS CHECK ANGLE VALVE C2-830-53					2	ARROQUIP DUST PLUG PT. 5657-6 STAINLESS STL.		
10	861	1	1/2" PLUG TYPE ANGLE VALVE VICKERS-DTPA 2-12-10					2	ARROQUIP DUST CAP PT. 5659-16 STAINLESS STL.		
11	893		HELICOID GA. TYPE 440 SIZE 4 1/2" FLUSH MTG. TYPE 316 SOCKET & TIP ASSY. BACK CONNECTION 1/2" NPT PHENOL CASE, SC. RAG. 0-3000 #PSI.					2	ARROQUIP DUST PLUG PT. 5657-16 STAINLESS STL.		
12	893		D=								
13	893		VICKERS RELIEF VALVE #CG-10-C-10								
14	815		MARINE CONST. & DESIGN CO. MOD. W0960 HYD. WINCH								
15	868	1	TEMP. CONTROL VA. VICKERS MOD #OCRV-10-8-10 70CBM-1-10 SALT WATER								
16	861	2	CRANE ANGLE NEEDLE VA. #227H FEMALE ENDS 1/4"								
17	861	1	HELICOID GA. TYPE 440 SIZE 3 1/2" TYPE 316 SOCKET & TIP ASSY. BOTTOM CONN. 1/2" NPT PHENOL CASE, SC. RAG. 0-3000 #PSI.								
18	861	1	VICKERS AIR RELEASE VA. #ABT-02-10								
H5-1		2	HYD. HOSE-AEROQUIP STYLE 2766-18 2 1/2" LG. W/SS FITTING No. 4722-16-16C BOTH ENDS								
H5-2		2	HYD. HOSE-AEROQUIP STYLE 2766-6-25 LG. W/SS FITTINGS No. 4722-6-6C BOTH ENDS								
H5-3		2	HYD. HOSE ANACONDA STYLE N.B. BW-11-H-1/4" W/HAH4 FITTINGS 3/8" BOTH ENDS								
H5-4		2	QUICK DISCONNECT HYD. CPLG. AEROQUIP STYLE 5600-16-16C 1"								
H5-5		2	QUICK DISCONNECT HYD. CPLG. AEROQUIP STYLE 5600-6-6C 3/8"								
H5-6		4.0	1/4" O35 SAE 1010 STEEL TUBING								
H5-7		5.0	3/8" O35 SAE 1010 STEEL TUBING								
H5-8		2	3/4" x 1" FLODAR STR. TUBE CONN. BA-1000-6-B								
H5-9		1	3/4" x 1" FLODAR 90° ELL. TUBE TO MALE PIPE CONN. BA-1000-6-B								
H5-10		3	3/4" x 1" FLODAR STR. TUBE CONN. BA-1000-6								
H5-11		2	1/4" x 1" FLODAR STR. TUBE CONN. BA-1000-4-4								
H5-12		13.0	1/2" X 5" A53, A106, GR. B PIPE								
H5-13		17.0	1/4" X 5" A53, A106, GR. B PIPE								
H5-14		3.0	3/8" X 5" A53, A106, GR. B								
H5-15		2	1/2" F x F 90° ELL. FLODAR PF21-24								
H5-16		1	1/2" F x M 90° ELL. FLODAR PF201-24								
H5-17		2	1/2" F x F 90° ELL. FLODAR PF21-20								
H5-18		5	1/4" F x M 90° ELL. FLODAR PF201-20								
H5-19		1	1/4" M x M 90° ELL. FLODAR PF20-20								
H5-20		2	1/4" F x F 45° ELL. FLODAR PF51-20								
H5-21		1	1/4" M x F 45° ELL. FLODAR PF501-20								
H5-22		2	1/2" 90° UNION ELL. FLODAR PFU21-24								
H5-23		13	1/2" 90° UNION ELL. FLODAR PFU21-20								
H5-24		2	1/2" F x F TEE, FLODAR, PF31-24								
H5-25		2	1/2" F x F TEE, FLODAR, PF3110-24								
H5-26		1	1/2" F x F TEE, FLODAR, PF51-20								
H5-27		2	1/2" M x F TEE, FLODAR, PF3011-20								
H5-28		1	1/2" F x F TEE, FLODAR, PF3110-20								
H5-29		2	1/2" RED BUSH, FLODAR, PF1020-20								
H5-30		2	1/4" RED NIP, FLODAR, PF10-20-16								
H5-31		2	1/2" RED BUSH, FLODAR, PF1020-6								
H5-32		2	1/2" UNION, FLODAR, PFU11-24								
H5-33		2	3/8" UNION, FLODAR, PFU-11-6								
H5-34		2	1/2" PIPE HEX NIP FLODAR PF10-20								
H5-35		2	3/8" PIPE HEX NIP FLODAR PF10-6								

NOTES:

1. FLEXIBLE HOSE LENGTHS FOR PARTS MARKED H5/3 SHALL BE AS SHOWN ON ISOMETRIC.
2. HOSE LENGTHS FOR PARTS MARKED H5/1 & H5/2 ARE GIVEN PER EACH HOSE, QUANTITY TO BE AS SHOWN
3. REAM ALL PIPE AFTER CUTTING TO INSURE FULL INTERNAL DIAMETER
4. ASSEMBLE SCREWED PIPING WITH TEFLON TAPE ON ALL THREADS
5. TIGHTEN PIPING TO ASSURE LEAK TIGHT JOINT. CARE SHOULD BE EMPLOYED NOT TO OVERTIGHTEN JOINT AND OVER STRESS MATERIALS.
6. PIPING SHALL BE SUPPORTED AT SUITABLE INTERVALS TO THE BUOY STRUCTURE. FOR SUPPORT SEE TYPICAL DETAIL ON SHT. 886 OR AS NOTED ELSEWHERE
7. ALL PIPING SYSTEM SHALL BE CLEANED AND FLUSHED FREE OF ALL FOREIGN MATERIAL PRIOR TO CONNECTION TO EQUIPMENT

REFERENCE DRAWINGS

SHT. NO.	TITLE
861	BUOY WINCH-HYD. SYSTEM-SCHEMATIC
863	BUOY WINCH-HYD. SYSTEM-PIPING SKID PLAN-MACH. COMP.
864	BUOY WINCH-HYD. SYSTEM-CONTROL BOX-PLAN N&I
865	BUOY WINCH-HYD. SYSTEM-CONTROL BOX-PLAN N&Z
866	BUOY WINCH-HYD. SYSTEM-CONTROL BOX-ELEV. "A"
867	BUOY WINCH-HYD. SYSTEM-CONTROL BOX-ELEV. "B"
892	HYDRAULIC PUMPING UNIT & FDN. DET.
893	HYDRAULIC & ELECTRICAL CONTROL BOX-LAYOUT & DETAILS

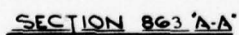
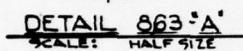


MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

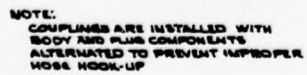
J. RAY McDERMOTT & CO., INC.
ENGINEERS NEW ORLEANS, LA. CONTRACTORS

PROJECT	DATE	SCALE	DATE	PROJECT NO.
DESIGNED BY	1-28-66	NONE	11-19-65	USA-2971
DRIVEN BY				
ENGINEERED BY				
CONTRACT NO.				
FABRICATOR JOB NO.				
56017				
BUOY WINCH-HYD. SYSTEM ISOMETRIC				



THE CHINESE

[illegible]



PLAN NO 1
SCALE: HALF SIZE

[illegible]

867

4866
A

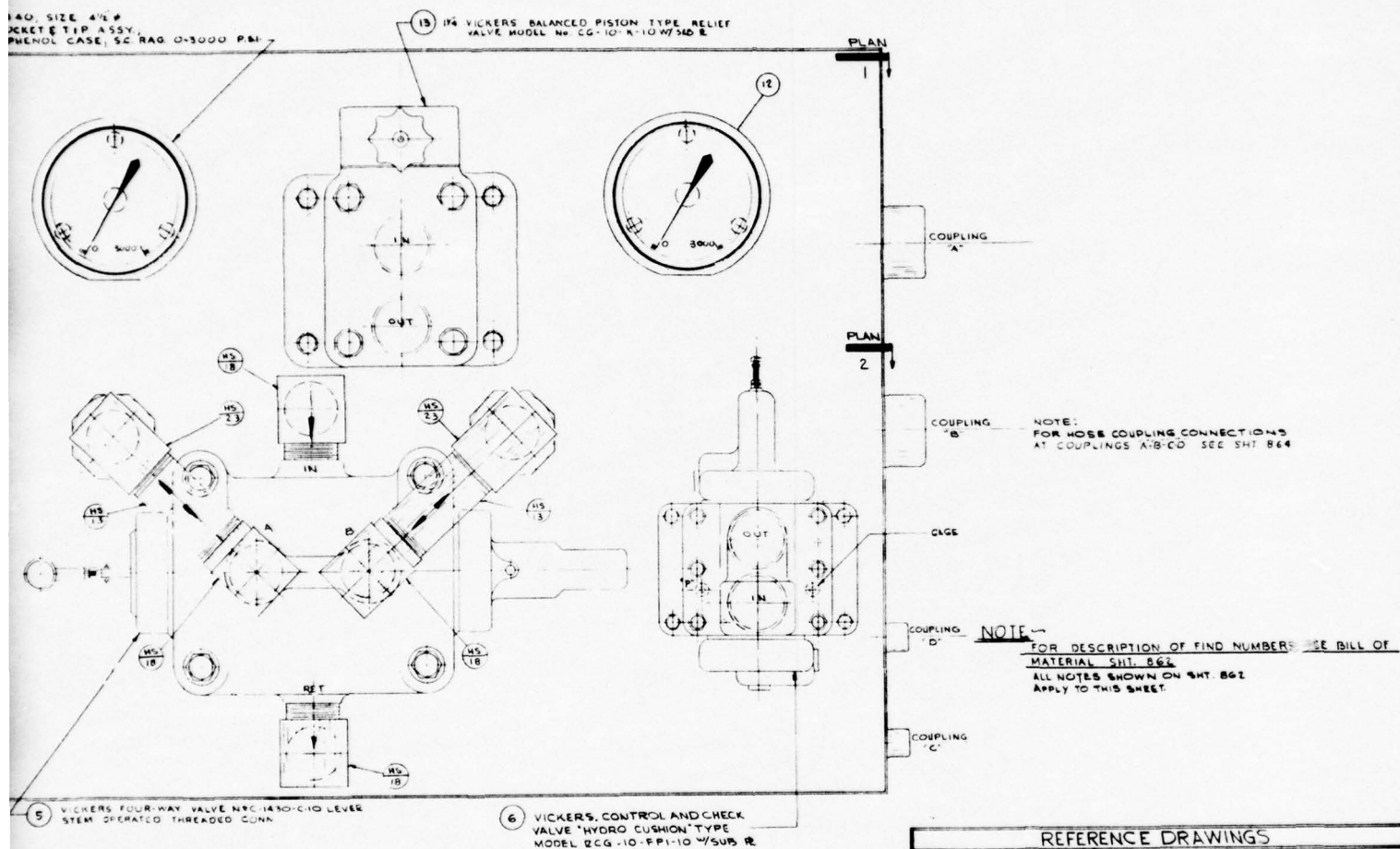
2 CONSOLE CONTROL ENCLOSURE
SEE SHT. 898

SEE DETAIL 863 "A" FOR
DETAIL OF TAP

PLAN No 2

[illegible]

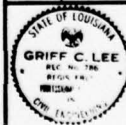
140, SIZE 4 1/2 #
JACKET & TIP ASSY.
PHENOL CASE, SC. RAG. 0-3000 P.B.I.



ELEVATION 866" A - A'
SCALE HALF SIZE

REFERENCE DRAWINGS

SHT#2	TITLE
861	BUOY WINCH-HYD SYSTEM-SCHEMATIC
862	BUOY WINCH-HYD SYSTEM-ISOMETRIC
864	BUOY WINCH-HYD SYSTEM-CONTROL BOX PIPING PLAN N81
865	BUOY WINCH-HYD SYSTEM-CONTROL BOX PIPING PLAN N82
867	BUOY WINCH-HYD SYSTEM-CONTROL BOX ELEVATION "B"



MONO-MOORING SYSTEM

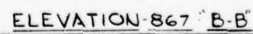
FOR
U. S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

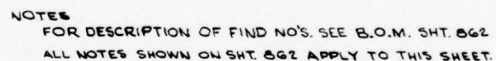
J. RAY Mc DERMOTT & CO., INC.
ENGINEERS CONTRACTORS

PROJECT NO.		ENGINEERS		NEW ORLEANS, LA.	
BY	DATE	DRAWN BY		SCALE	DATE
	11/1/66	RJR / MG		HALF SIZE	11-1-65
PROJECT					PROJECT NO.
STRUCTURAL					USA-2971
POINCE		FABRICATORS JOB NO.		1 DAY OR DEMO? JOB NO.	SHEET NO.
METALLURGICAL		56017			866
ELECTRICAL					
INSTRUMENT		BUY WINCH - HYD SYSTEM			
FOR CHECK		CONTROL BOX ELEVATION "A"			

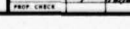
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PLAN

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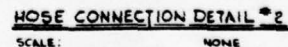
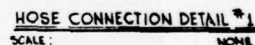
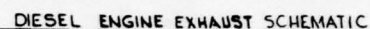
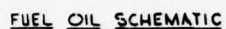


SHT. NO.	TITLE
861	BUOY WINCH-HYD. SYSTEM SCHEMATIC
862	BUOY WINCH-HYD SYSTEM / ISOMETRIC
864	BUOY WINCH-HYD. SYSTEM CONTROL BOX PLAN No. 1
865	BUOY WINCH-HYD. SYSTEM CONTROL BOX PLAN No. 2
866	BUOY WINCH-HYD. SYSTEM CONTROL BOX ELEVATION "A"

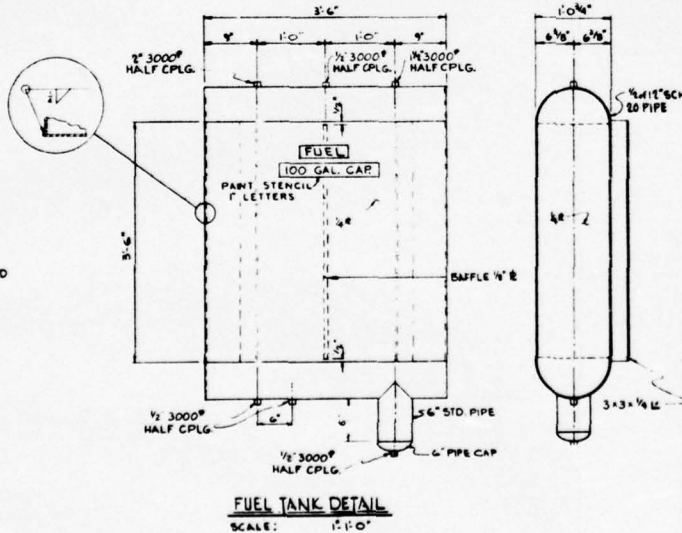
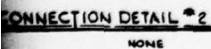
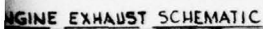


ELEVATION IS _____

[illegible]

[illegible]

2



2

FIND N°	DWG. N°	QTY.	NOMENCLATURE	SPEC.	MAT'L.
FS-1	848	2	1/4"-150° SCRD. PLUG COCK POWELL FIG. 985 OR EQUAL		BRONZE
FS-2		3LN.FT.	2" STD. SMLS. BLACK PIPE ABB-B		A-55-B
FS-3		22LN.FT.	1/2" STD. SMLS. BLACK PIPE ABB-B		A-55-B
			SCRD PIPE FITTINGS		FORGED STEEL
FS-4		2	78°-2000° 90° ELBOW		
			1/4"-3000° GRD JT. UNION		
FS-5		13	1/4"-2000° 90° ELBOW		FORGED STEEL
		1	1/4"-3000° GRD JT. UNION		
		1	1/4"-2000° SQ. HD. PLUG		
FS-6		2	2"-2000° 90° ELBOW		FORGED STEEL
		1	2"-3000° COUPLING		
FS-7		1	FUEL TANK		STEEL
FS-8		2	1/4"x1/4" STD. SWAGE T.B.E.		A-55-B
FS-9	SEE DWG. 897		VENT FILL CAP		
FS-10	848	2	FLEXIBLE CONNECTION ANACONDA FLEX PIPE 1/4" M10		BRONZE
FS-11		1	FUEL DEHYDRATOR. ROL-PAL 9PD-1001WK. 1/2"		
FS-12		1	FUEL GAUGE (DIESEL) BOSTON AUTO GAUGE CO. MODEL 11A FOR 54" DEEP TANK		
FS-13		1	HOSE ASSEMBLY: 2" I.D. x 12' LG. 4 PLY NEO. HOSE 2" EROS BAND-IT SWAGED HOSE NIP 2" 5/8" BAND-IT CLAMPING BANDS W/SCRD-LOKKT BUCKLES TP 3/4 S.S.		
EES-1		1	1/2"-200° SCRD GATE VALVE POWELL FIG. NO. 375 OR EQUAL		BRONZE
EES-1A		1	ASCO 1/2" SOLENOID VALVE WP-8276 A-19, 24 V. DC., N.O.		BRONZE
EES-2	1 L.F.		3" STD. SMLS. PIPE		GALV. ABB-B
EES-3		1	1/4"-150° 90° SCRD. ELBOW		GALV. WALL IRON
EES-4	1/2 L.F.		1/4" STD. SMLS. PIPE		GALV. ABB-B
EES-5		5	150° SCRD. PIPE FITTINGS		GALV. WALL IRON
		1	1/4" 90° ELBOW		"
		1	1/4" BRASS SEAT GRD. JT. UNION		"
		1	1/4" TEE		"
EES-6		1	EXHAUST SILENCER MAXIM MODEL M8-76		
EES-7		1	FLEXIBLE EXHAUST CONN. ANACONDA RD-15 HOSE 1/2" PMBS END CONNECTIONS, 2"-11 1/2" OVER ALL LENGTH		GALV. STEEL
BS-1		2	1/4"-200° SCRD STOP CHECK V. POWELL FIG. 184 OR EQUAL		BRONZE
BS-2	1/4 L.F.		1/4" STD. SMLS. PIPE		GALV. ABB-B
BS-3		2	150° SCRD. PIPE FITTINGS		GALV. WALL IRON
		1	1/4" 90° ELBOW		"
		1	1/4" BRASS SEAT GRD. JT. UNION		"
BS-4		2	1/4"x1/4" 90° SWAGE T.B.E.		GALV. ABB-B
BS-5	ASSEMBLED		1/4" (1/4") STD. PIPE NIPPLES		GALV. ABB-B
BS-6		2	BULGE PUMP BUTTON MFG. CORP. MODEL NO. PSA-74 (24V.D.C.)		BRONZE

TITLE
ENGINE PIPING ARRANGEMENT
ULIC SYSTEM SCHEMATIC
ULIC SYSTEM ISOMETRIC

SHT NO.	TITLE
069	DIESEL ENGINE PIPING ARRANGEMENT
061	HYDRAULIC SYSTEM SCHEMATIC
062	HYDRAULIC SYSTEM ISOMETRIC



FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.

ENGINEERS APPROVAL		S. RAY McDERMOTT & CO., INC.		CONTRACTORS	
BY DATE		NEW ORLEANS, LA.			
PROJECT	PKS-1-104	DESIGN BY	SCALE	DATE	PROJECT NO.
APPROVAL		Robert J. McDerrett		8-15-66	U.S.A. 0771
PERIOD		FABRICATORS JOB NO.	54017	I NOT IN DISCREPANCY JOB NO.	SHIRT NO.
PER PERSONAL					54-5
BY APPROVAL					
CONTRACTOR					
DATE CHECK	8/25/66	DIESEL ENGINE PIPING SCHEMATIC			

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GENERAL NOTES:

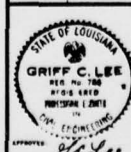
1. REAM ALL PIPE AFTER CUTTING TO INSURE FULL INTERNAL DIAMETER.
2. ASSEMBLE SCREWED PIPING WITH TEFLON TAPE ON ALL THREADS.
3. TIGHTEN PIPING TO ASSURE LEAK TIGHT JOINT, CARE SHOULD BE EMPLOYED NOT TO OVER TIGHTEN JOINT AND OVER STRESS MATERIALS.
4. PIPING SHALL BE SUPPORTED AT SUITABLE INTERVALS TO THE BODY STRUCTURE FOR SUPPORT SEE TYPICAL DETAIL ON SHT. B-76 OR AS NOTED ELSEWHERE.
5. ALL PIPING SYSTEM SHALL BE CLEANED AND FLUSHED FREE OF ALL FOREIGN MATERIAL PRIOR TO CONNECTION TO EQUIPMENT.

BILL OF MATERIAL

FIND N°	DWG NR	QTY.	NOMENCLATURE	SPEC.	MAT'L.
CWS-1	B-8	1	2" 200# SCRD. GATE VALVE POWELL FIG. 375 OR EQUAL		BRONZE
CWS-2		4	1 1/4" 200# SCRD. GATE VALVE POWELL FIG. 375 OR EQUAL		BRONZE
CWS-3		1	1 1/4" 200# SCRD. SWING CHECK VALVE POWELL FIG. 375 OR EQ.		BRONZE
CWS-4		1	1 1/2" SCRD. RELIEF VA. SET 40 psi. CRANE FIG. 2614 OR EQ.		BRONZE
CWS-5		1	INTAKE WATER STRAINER PERKO FIG. 493-96-2		BRONZE
CWS-6		1	STRAINER-VICKERS MODEL OCST-1-08-10, 1" FOR SEA WATER SERVICE		BRONZE
CWS-7		1	TEMPERATURE CONTROL VA. VICKERS MODEL OCST-1-08-10 1/4" OCBW-1-10 FOR SALT WTR. SERVICE		BRONZE
CWS-8		1	1" 200# SCRD. GATE VALVE POWELL FIG. 375 OR EQUAL		BRONZE
CWS-9		75 L.F.	2" STD. SMLS. PIPE		GALV. A53-B
CWS-10		24 L.F.	1 1/2" STD. SMLS. PIPE		GALV. A53-B
CWS-11		12 L.F.	1" STD. SMLS. PIPE		GALV. A53-B
CWS-12		2	2" 150# SCRD. PIPE FITTINGS 90° ELBOW BRASS SEAT GRD. JT. UNION 2 x 1 1/4" x 2 RED. TEE		GALV. MALL. TUB. do do do
CWS-13		10 4 5	1 1/4" 150# SCRD. PIPE FITTINGS 90° ELBOW 1 1/4" TEE BRASS SEAT GRD. JT. UNION		GALV. MALL. TUB. do do do
CWS-14		2	1 1/4" 1/2" SWAGE NIPPLE (T.B.C.)		GALV. A53-B
CWS-15		3	1 1/4" 1" SWAGE NIPPLE (T.B.C.)		GALV. A53-B
CWS-16		2 1	1" 150# SCRD. PIPE FITTINGS 90° ELBOW BRASS SEAT GRD. JT. UNION		GALV. MALL. TUB. do do
CWS-17		4	HOSE ASSEMBLY 1 1/2" ID. x 12' LG. 4 PLY. WATER HOSE 2" E806 BA-IT SWAGED HOSE NIPP. 2-3/8" BAND-IT CLAMPING BANDS W/SCRD. LOCK BUCKLES, TP316SS.		
CWS-18		2	HOSE ASSEMBLY 2 3/8" ID. x 12' LG. 4 PLY. WATER HOSE 2-3/8" BAND-IT CLAMPING BANDS W/SCRD. LOCK BUCKLES, TP316SS.		
CWS-19		ASSORTD.	2" STD. SMLS. PIPE NIPPLE		GALV. A53-B
CWS-20		ASSORTD.	1 1/2" STD. SMLS. PIPE NIPPLE		GALV. A53-B
CWS-21		ASSORTD.	1" STD. SMLS. PIPE NIPPLE		GALV. A53-B

REFERENCE DRAWINGS

SHT. N°	TITLE
B-8	DIESEL ENGINE PIPING SCHEMATICS
B-9	TOP DECK FRAMING PLAN
B-10	MISC. DETAILS
B-11	ARRGT. PLANS
B-12	HYDRAULIC SYSTEM SCHEMATIC
B-13	HYDRAULIC SYSTEM ISOMETRIC
B-14	HYDRAULIC PUMPING UNIT FDN. & DET.



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS

NEW ORLEANS, LA. CONTRACTORS

PROJECT	BY	DATE
DESIGN	J.R.M.	1-28-66
CONSTRUCTION	J.R.M.	1-28-66
REVISIONS		
NO.	DATE	BY
1	1-28-66	J.R.M.

DRAWN BY: J.R.M. SCALE: 3/8" = 1'-0"

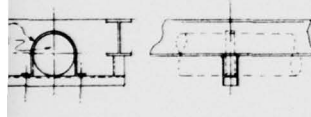
DATE: 1/1/66 PROJECT NO.: U.S.A. 2971

FABRICATORS JOB NO.: 56017 SHEET NO.: B-67

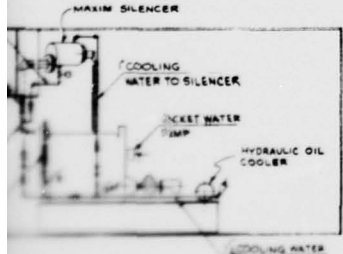
DIESEL ENGINE PIPING ARRANGEMENT



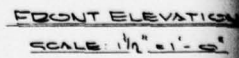
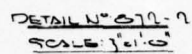
TYP. PIPE SUPPORT DETAIL

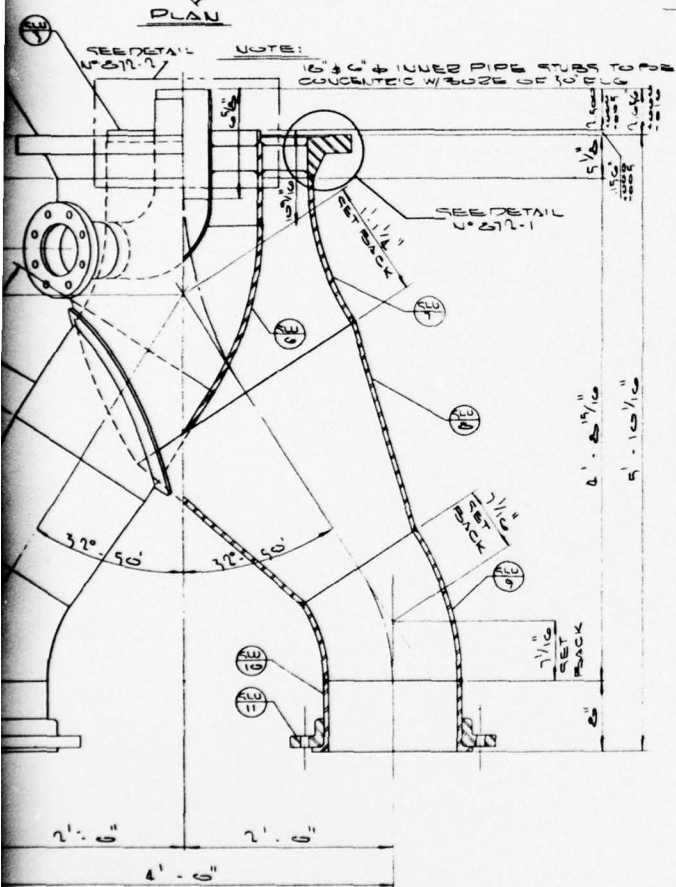


SILENCER SUPPORT



COOLING SYSTEM

[illegible]



FRONT ELEVATION
SCALE: 1/4" = 1'-0"

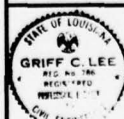
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ITEM NO.	INS NO.	QTY	NOMENCLATURE	SPEC.	MAT'L
SLW-1	572	1	6" ISO FT. AS-BAL FLG		ASTM A213-66
SLW-2	"	1	6" STD PIPE		ASTM A213-66
SLW-3	"	1	16" X 8 PIPE		30
SLW-4	"	1	3/4" ISO AS-BAL FLG		ASTM A213-66
SLW-5	"	1	16" X 8 PIPE		ASTM A213-66
SLW-6	"	1	6" X 16 ELB. CUT TO 17'-10" 193' SET BACK		A213-66 ASTM A213-66
SLW-7	"	1	6" X 16 ELB. CUT TO 17'-10" 193' SET BACK		30
SLW-8	"	1	4" X 16" X 8 REDUCER		30
SLW-9	"	2	10" X 16" ELB. CUT TO 17'-10" 193' SET BACK		30
SLW-10	"	2	16" X 8-STD. END CUT TO 6'		30
SLW-11	"	2	16" 300# AS-B CAP. JOINT FLG.		ASTM A213-66
SLW-12	"	1	6" STD 90° L. ELB.		ASTM A213-66
SLW-13	"	1	6" STD PIPE		ASTM A213-66
SLW-14	"	1	16" X 16" REDUCER		ASTM A213-66
SLW-15	"	1	1/2" 3/4" ELB. COLLAR		ASTM A213-66

REFERENCE DRAWINGS

DWG#	TITLE
671	FLOW UNIT IN VEL ASSEMBLY
674	UPPER UNIT DETAILS
670	FLOW SYSTEM PIPING ARRANGEMENT
675	FLOW IN VEL ASSEMBLY

NOTE:
ALL BEVELS & WELDING SHALL BE IN
ACCORDANCE WITH ASPECT CATION &
ARC CONNECTION DRESSING DUE TO ASSEMBLY



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

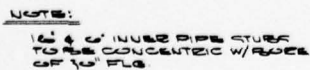
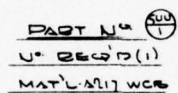
DRAWN BY ROSS	SCALE NOTED	DATE 6-15-65	PROJECT NO. USA-297
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FABRICATORS JOB NO.	J. RAY B. DERMOTT JOB NO.	SHEET NO.
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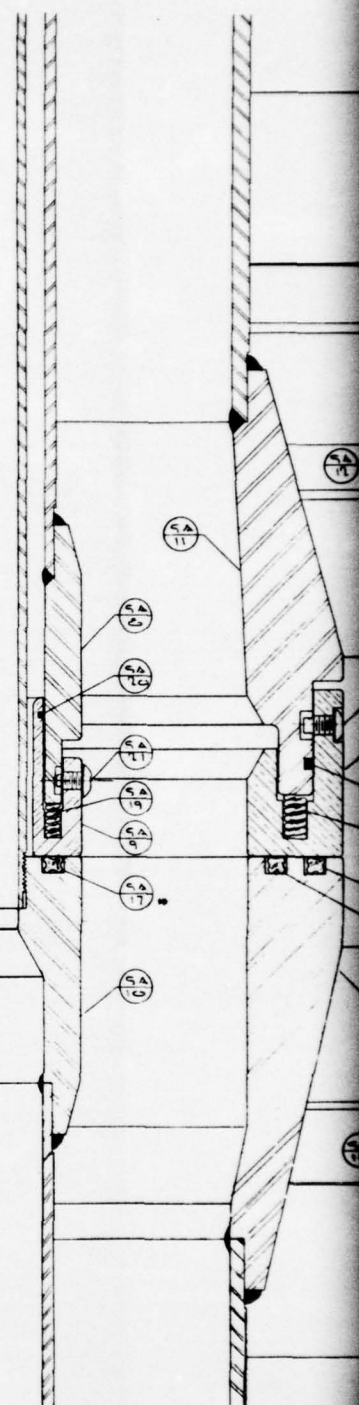
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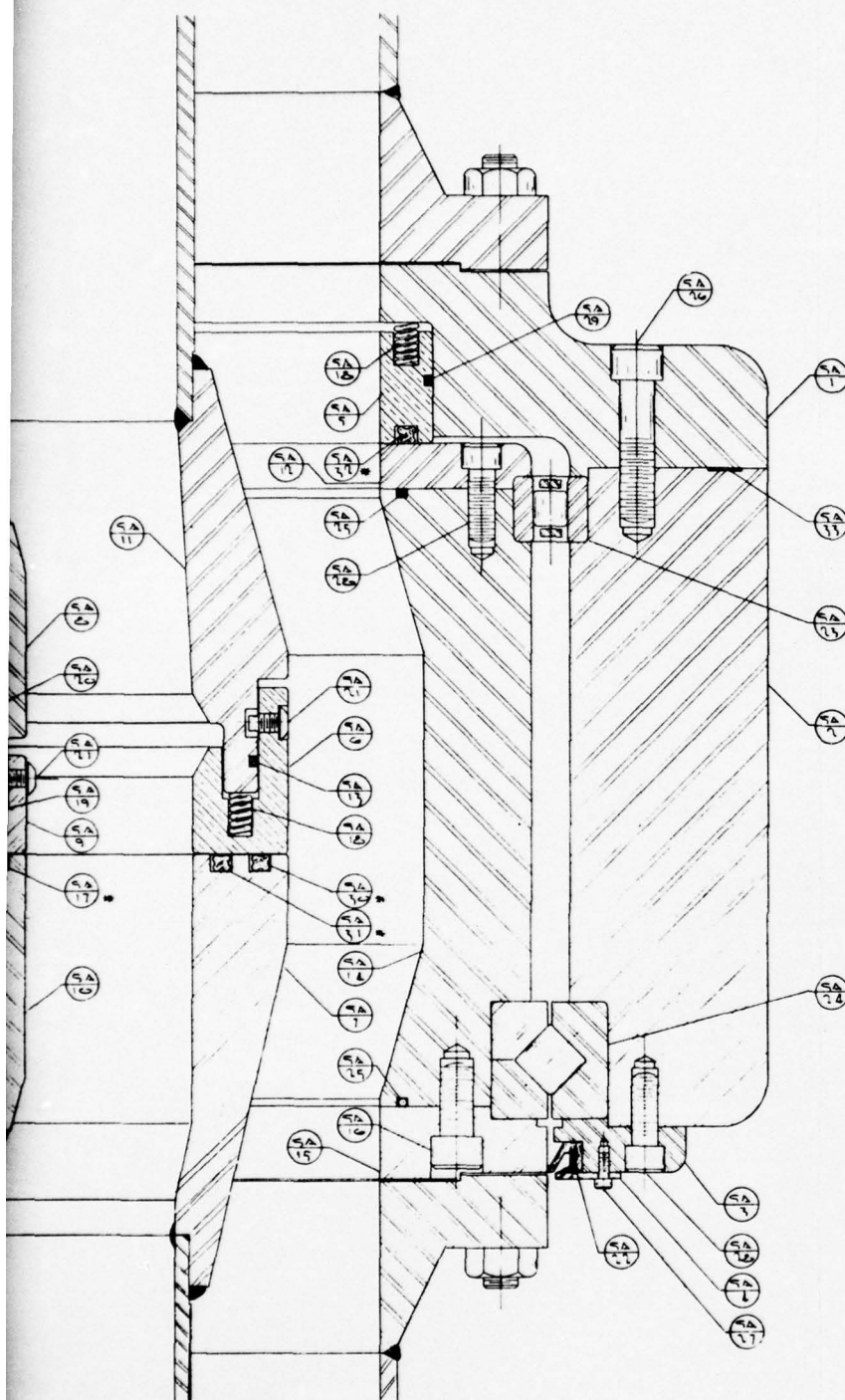
FLOW SWIVEL
LOWER UNIT DETAILS

LOWER UNIT DETAILS

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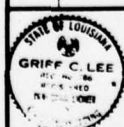
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* THESE SEAL RINGS ARE DESIGNED
MANUFACTURED BY MINNESOTA RUBBER
CO., MINNEAPOLIS, MINN. & SHALL BE TO
THEIR COMPOUND # 4117 & (X 924)
TESTED

<u>BILL OF MATERIAL</u>					
PWD N°	DWG N°	QTY	NOMENCLATURES	SPEC.	MAT'L
SA-1	676	1	PLANEING CAP		
SA-2	677	1	MAIN HOUSING		
SA-3	678	1	SEAL HOUSING		
SA-4	679	1	SEAL RETAINER		
SA-5	679	1	SEAL SLEEVE		
SA-6	680	1	INTERMEDIATE FLOATING SEAL SLEEVE		
SA-7	680	1	INTERMEDIATE SEALING		
SA-8	681	1	INNER SEAL TONGUE		
SA-9	681	1	INNER FLOATING SEAL SLEEVE		
SA-10	681	1	INNER SEAT RING		
SA-11	680	1	INTERMEDIATE SEAL TONGUE		
SA-12	676	1	TOP PLANEING ESTAINER		
SA-13	679	1	SEE NOTE SA-13		RUNA N
SA-14	677	1	INNER HOUSING		
SA-15	679	1	LOWER PLANEING ESTAINER		
SA-16	679	26	1" ANG. LOCK UP CAP SCREW		STEEL
SA-17	679	1	QUAD RING MINN. BUSH PART SA-907		RUNA N
SA-18	679	62	ONLY DIE SPRING SA-100G-21		STEEL
SA-19	679	16	ONLY DIE SPRING SA-100G-31		STEEL
SA-20	679	1	SEE NOTE SA-20		RUNA N
SA-21	680	7	KEEPER		STEEL
SA-22	679	1	SEE NOTE SA-22		EUMPAE
SA-23	679	1	SEE NOTE SA-23		STEEL
SA-24	679	1	SEE NOTE SA-24		STEEL
SA-25	679	2	SEE NOTE SA-25		RUNA N
SA-26	679	26	1" ANG. LOCK DOWN SCRW		S.S.
SA-27	679	22	1/16" BUSH do		S.S.
SA-28	679	56	1/16" WASH do		S.S.
SA-29	679	1	SEE NOTE SA-29		RUNA N
SA-30	679	1	QUAD RING MINN. BUSH PART SA-907		RUNA N
SA-31	679	1	QUAD RING SA-9161		RUNA N
SA-32	679	1	QUAD RING SA-9150		RUNA N
SA-33	679	1/1 LB	SEE NOTE SA-33		
SA-34					
SA-35					
SA-36					

REFERENCE 7244 NS	
ENT#	TITLE
671	FLOW UNIT SWIVEL ASSEMBLY
672	LOWEER UNIT DETAILS
673	UPPER UNIT DETAILS
674	FLOW SWIVEL DETAILS
ENT. 1	
677	do
ENT. 2	
678	do
ENT. 3	
679	do
ENT. 4	
680	do
ENT. 5	
681	do
ENT. 6	
682	do
ENT. 7	



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.

NEW ORLEANS, LA.

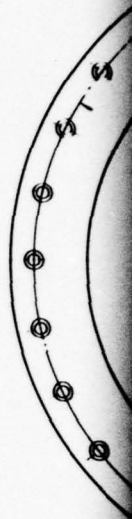
DRAWN BY	SCALE	DATE	PROJECT NO.
BC55	1:1	1-1-65	USA-291

10011	10011	10011	10011
FABRICATORS JOB NO.		J. RAY BERNHOTT JOB NO.	TRUST NO.

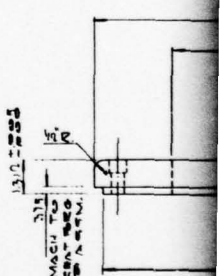
56017	875
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FLOW SWIVEL ASSEMBLY

[illegible]

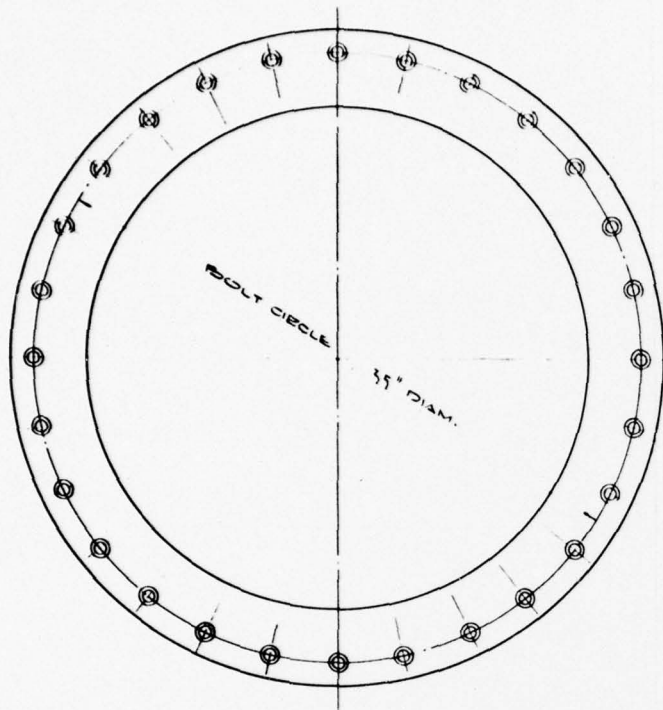


— 44 —

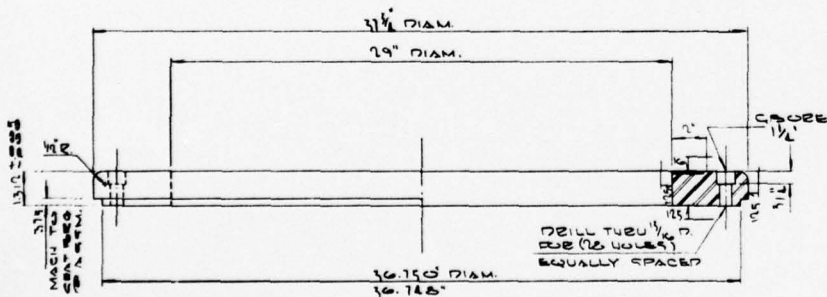


750.
MACHINERY
AND
ELECTRICITY

[illegible]



PLAN



PART N° 3A
1A

N° 3A (1)
MATERIAL TYPE 304 S.S.
SCALE: 1" = 1.0"

BILL OF MATERIAL

ITEM N°	QTY	UNIT	DESCRIPTION	SPEC.	MAT'L
3A-1	1		RES CAP		STEEL
3A-2	1		TOP RESERVATUE		S.S.

REFERENCE DRAWINGS

ITEM N°	TITLE
3A-1	FLOW UNIT SWIVEL ASSEMBLY
3A-2	FLOW SWIVEL ASSEMBLY

NOTE:

(1) PART N° 3A TO HAVE A SURFACE FACED WITH BUTTIC WELDING ALLOY COEP BUTALLOY 6015 TO A .015-.016 THICKNESS & FINISH GRIND TO 1/7



J. RAY Mc DERMOTT & CO., INC.
DATE: 1-28-66

ENGINEERS APPROVAL

PROJECT: 1228-66

DESIGN: 1228-66

PROCESS: 1228-66

MANUFACTURE: 1228-66

INSPECTION: 1228-66

FOR CHECK: 1228-66

FOR CHECK: 1228-66

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

PROJECT NO. 1228-66

DATE: 1-28-66

PROJECT NO. 1228-66

DATE: 1-28-66

PROJECT NO. 1228-66

DATE: 1-28-66

PROJECT NO. 1228-66

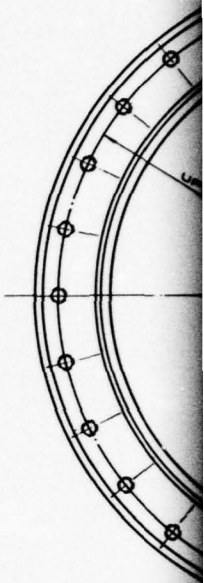
DATE: 1-28-66

PROJECT NO. 1228-66

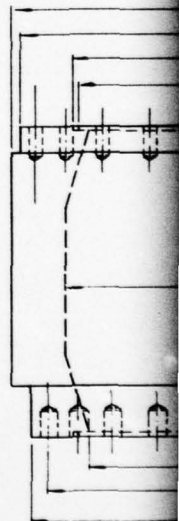
DATE: 1-28-66

PROJECT NO. 1228-66

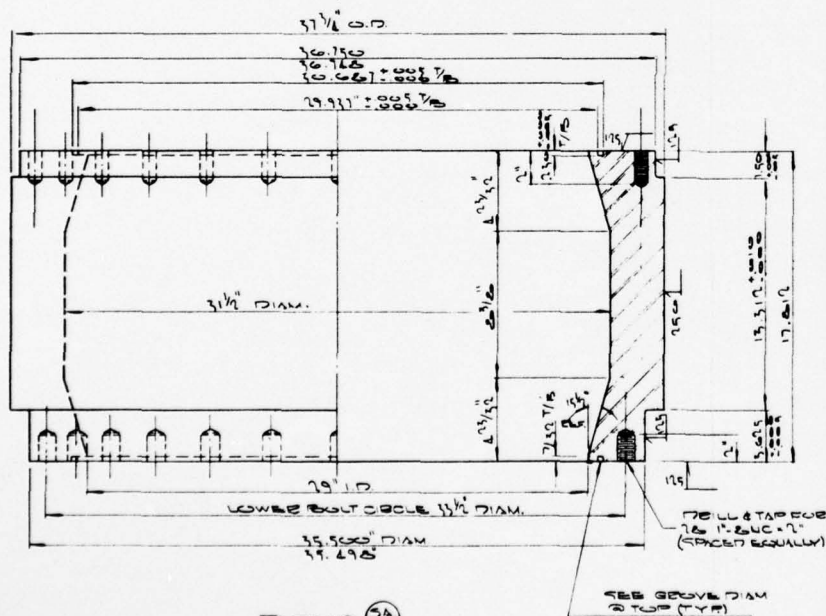
DATE: 1-28-66



DRILL & TAP FOR 20
- 1" BNC x 2"
(SPACED EQUALLY)



PART N^o $\frac{AA}{2}$
 4-2647 (1)
 WTLA 217-GR WCB



PAGE NO. 95
14
NO. 2567 (1)
MAT. 6.217. GA WGB
SCALE: 3" = 1.0"

[illegible]

REFERENCE DRAWINGS	
NUMBER	TITLE
571	FLOW UNIT SWIVEL ASSEMBLY
579	FLOW SWIVEL ASSEMBLY

NOTE:
ALL DIAMETERS TO BE CONCENTRIC ABOUT ϕ



APPROVED: H. Lee
J. BAY BENDEROTT & CO., INC.
DATE: 1-28-66

ENGINEERS APPROVAL

	81	847
PROJECT	OK	1-27

STRUCTURAL		
JOINTS		

1. 總計	100.00	100.00
2. 第一類	10.00	10.00
3. 第二類	20.00	20.00
4. 第三類	30.00	30.00
5. 第四類	40.00	40.00
6. 第五類	50.00	50.00
7. 第六類	60.00	60.00
8. 第七類	70.00	70.00
9. 第八類	80.00	80.00
10. 第九類	90.00	90.00
11. 第十類	100.00	100.00

FORM CODE		
FORM CODE		

MONO-MOORING SYSTEM

FOR
U. S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

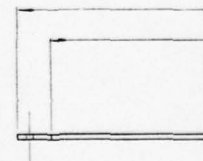
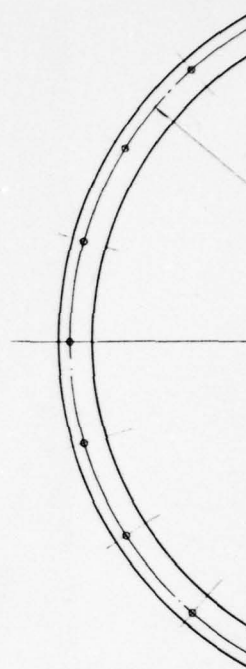
2055	VOTEN	7.12.69	USA 297
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FABRICATORS JOB NO.	J. RAY IN DERHOFF JOB NO.	SHIRT NO.
5-1-13		5-3-3

11

DETAIL LIST. No. 2

[illegible]



PART NO. 51
NO. BEG'D 1
MAT'L ASTM-A36
SCALE: 1" = 1'-0"

[illegible]

AD-A034 247

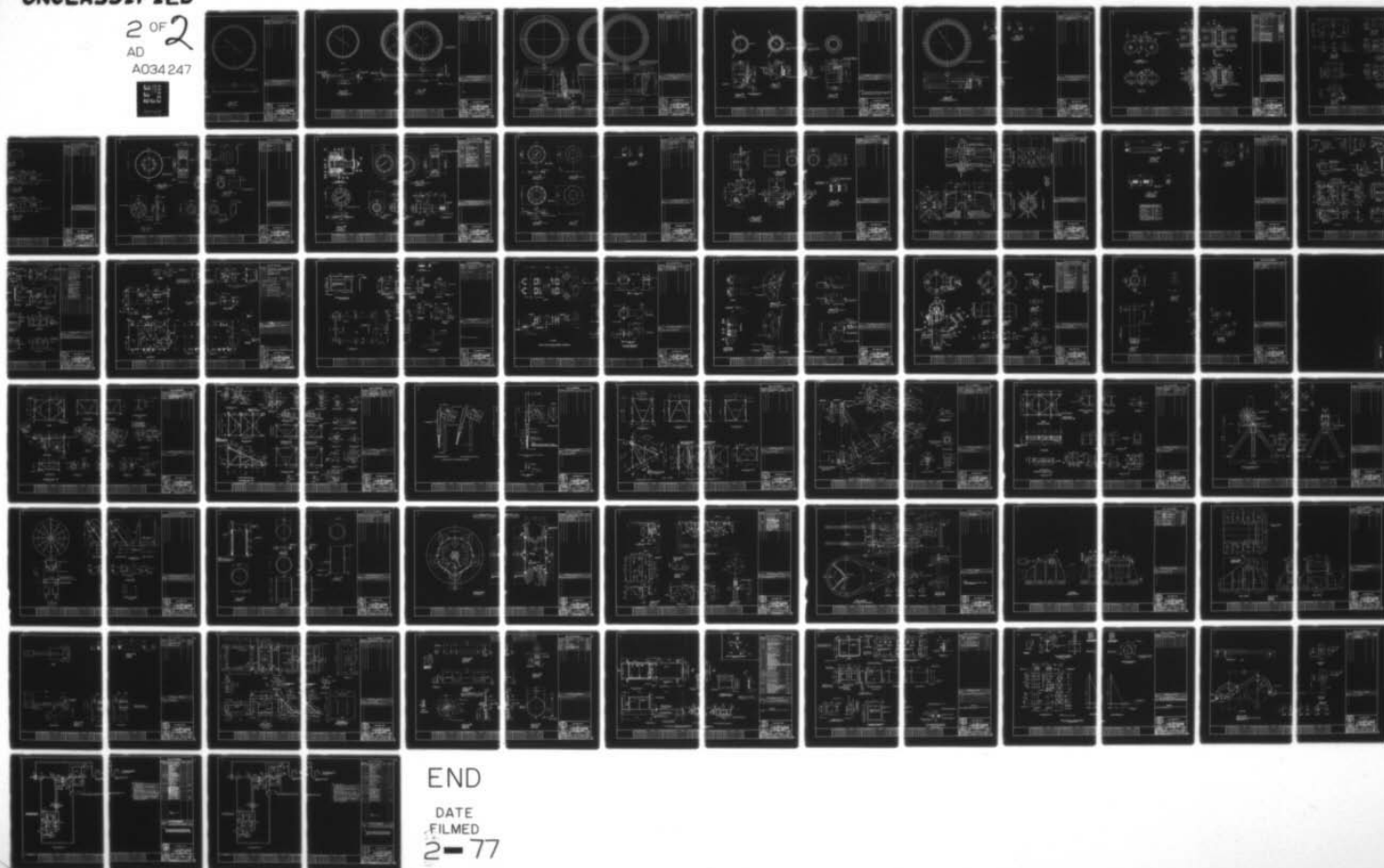
MCDERMOTT (J RAY) CO INC NEW ORLEANS LA
ENGINEER DESIGN OF A MONO-MOORING SYSTEM. DRAWINGS.(U)
1966

F/G 13/10

DA-44-009-AMC-841(T)
NL

UNCLASSIFIED

2 OF 2
AD
A034 247



END

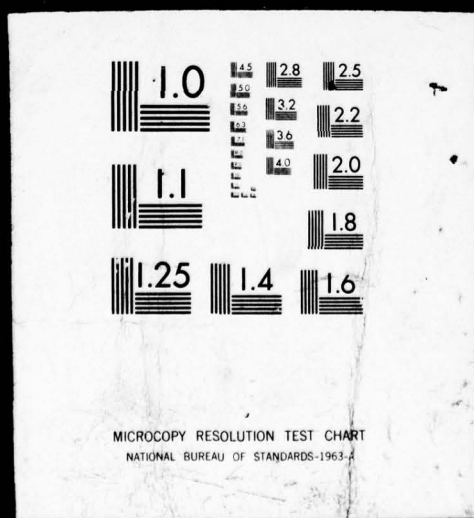
DATE
FILMED
2-77

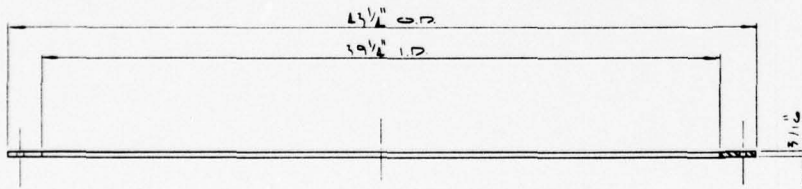
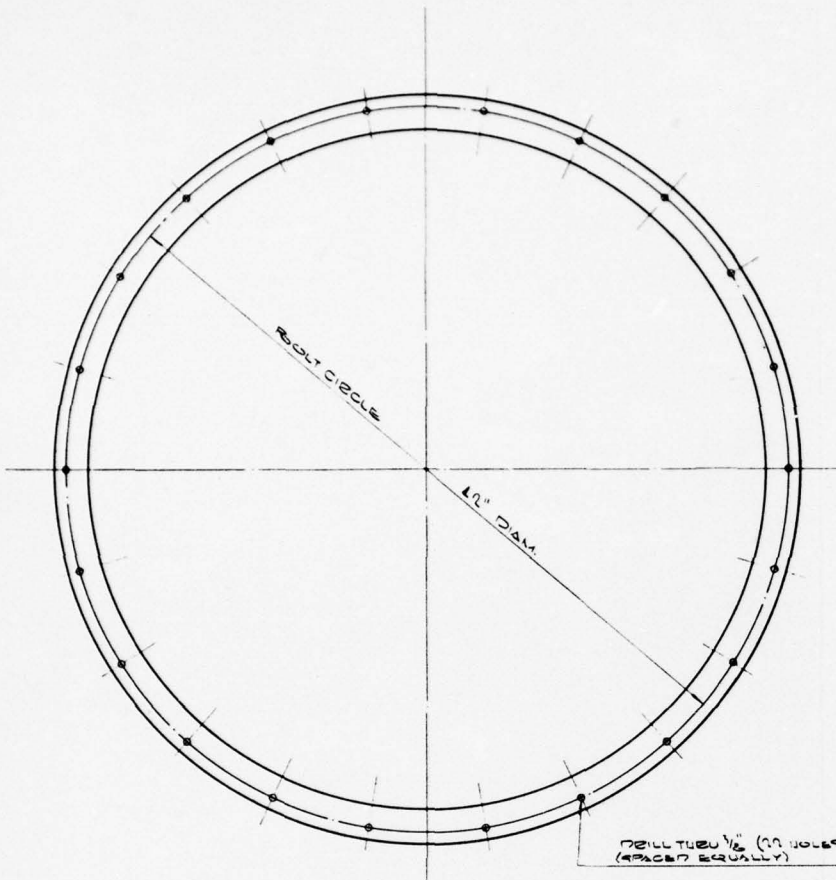
STIFIED

2 OF 2

AD

A034 247





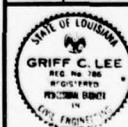
PART NO. 2A
 NO. 2527 1"
 MATERIAL TYPE 304 SS
 SCALE: 3\"/>

BILL OF MATERIAL

FIG. NO.	QTY	DESCRIPTION	SPEC.	MATERIAL
SA-1 2A	1	SEAL HOUSING		STEEL
SA-2 2A	1	SEAL RETAINER		TYPE 304 SS

REFERENCE DRAWINGS

FIG. NO.	TITLE
271	FLOW UNIT SWIVEL ASSEMBLY
275	FLOW UNIT ASSEMBLY



APPROVED: *Griff C. Lee*
 J. RAY McDERMOTT & CO., INC.
 DATE: 1-28-66

ENGINEERS APPROVAL

PROJECT	DATE
STRUCTURAL	1/28/66
MACHINERY	2/2/66
ELECTRICAL	2/2/66
MECHANICAL	2/2/66
PIPEWORK	2/2/66

MONO-MOORING SYSTEM

FOR
 U.S. ARMY ENGINEER RESEARCH
 & DEVELOPMENT LABORATORIES
 FORT BELVOIR, VIRGINIA

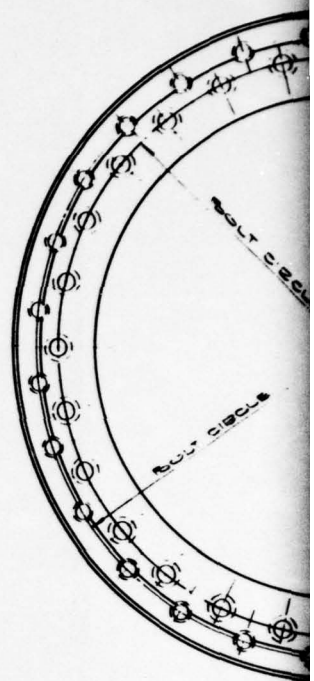
J. RAY McDERMOTT & CO., INC.
 NEW ORLEANS, LA.

ENGINEERS	CONTRACTORS
NEW ORLEANS, LA.	NEW ORLEANS, LA.
DRAWN BY: <u>2000</u>	DATE: <u>7-16-69</u>
SCALE: <u>NOTED</u>	PROJECT NO.: <u>USA 7971</u>
FABRICATOR JOB NO.: <u>96017</u>	J. RAY McDERMOTT JOB NO.: <u>275</u>
SHEET NO.: <u>275</u>	

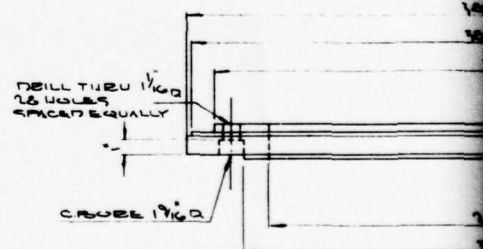
FLOW SWIVEL
 DETAIL FIG. NO. 3


REVISIONS	DATE	APP.	DESIGN	STRUCT	PIPING	ELEC.	MK.	BY	REVISIONS	DATE	APP.

14 - HOLE PATTERN 1/2" DIA. BOLT CIRCLE 1-28-66



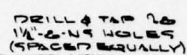
Technical drawing of a shaft assembly. The drawing shows a shaft with a central section of length 79.10 ± .005 in. The total length of the shaft is 79.850 ± .005 in. The diameter of the shaft is 31.760 ± .005 in. The diameter of the groove is 31.500 ± .005 in. The distance from the left end to the start of the groove is 16.1 in. The distance from the end of the groove to the right end is 16.1 in. The drawing includes a note: "MILL 76 HOLES 1/8\" D x 1.000 ± .005 in DEEP (9 HOLES EQUALLY)". The right end of the shaft has a break, indicated by a hatched area, with a note: "BREAK SHARP & CENTER 1/8\" D". The drawing is labeled with dimensions and tolerances in inches and thousandths of an inch.



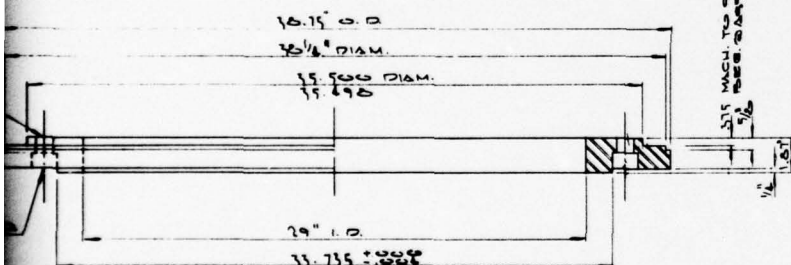
PART NO. 
NO. REQ'D (1)
MAT'L QTY REQ'D (1)
SCALE: 3"=1.0"

PAGE
N° 88
MAY LAST
SCALE: 1

[illegible]



PLAN



NOTE: 129 $\sqrt{\text{ALL SURFACES}}$

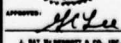
PART NO. 9A
15
NO. BEQ'D (1)
MAY LAST - 1960
SCALE 3" = 1.0"

[illegible]

REFERENCE DRAWING

S/N	TITLE
671	FLOW UNIT SWIVEL ASSEMBLY
675	FLOW SWIVEL ASSEMBLY

NEST:



A. RAY W. DENNETT & CO., INC.
1-38-66

ENGINEERS' APPROVAL

BY	DATE
<i>AS</i>	<i>1-10</i>

STRUCTURAL	402	130
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PROCESS		
MECHANICAL	<i>mp</i>	<i>96</i>

ELECTRICAL		
INDUSTRIENT		

PAB. CHECK		
PROP. CHECK		

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.

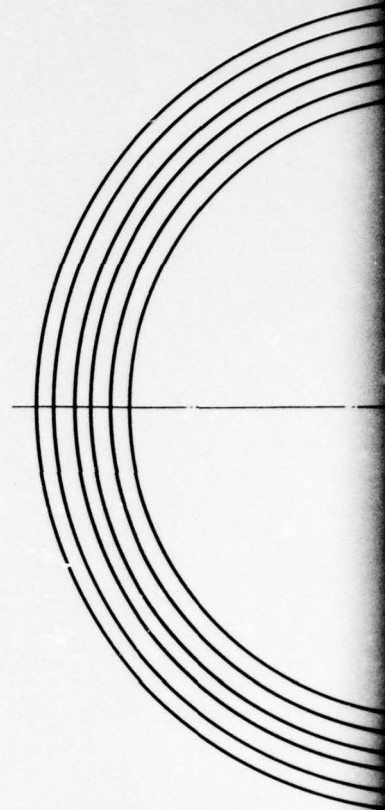
NEW ORLEANS, LA.

DESIGN BY BORG	SCALE NOTED	DATE 7-12-69	PROJECT NO. USA. 297
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MANUFACTURER JOB NO.	J. BAY INC. 08-00077 JOB NO.	ENTRY NO.
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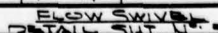
١٤٥١٦	٤٦٦
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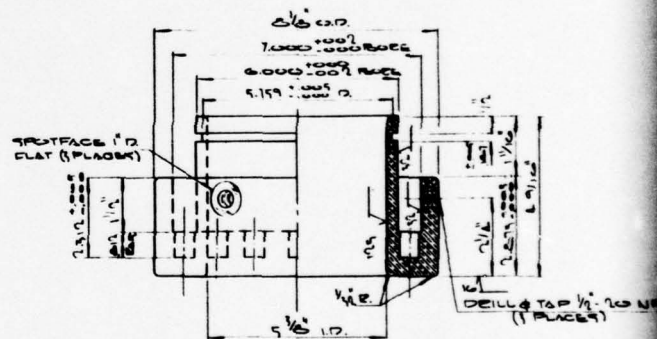
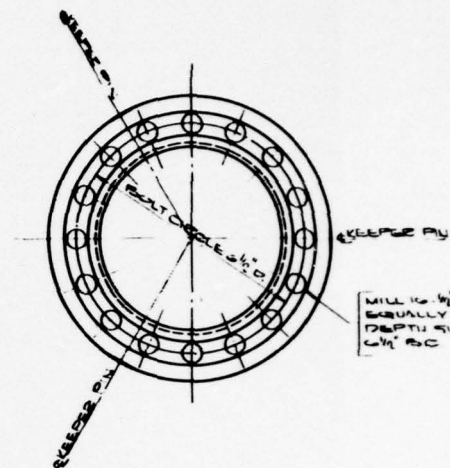
FLOW SWIVEL
DETAIL SHT. NO. 4




KEEPER SLOT DETAIL
L RWIN

[illegible]






PART 4: 
Nº. REVISED (1)
 MAT/24TM A217 WCB

KEEPER SLOT DETAIL
3 PLACES

PART 11 50
9
11-00000000
MATL: 5AE 0660 BEG.
BEUNZE

[illegible]

PART N° 
U° DE C° D (1)
MATL: A9TM-A217-WCB

[illegible]

REFERENCE DRAWINGS	
SHEET	TITLE
671	FLOW UNIT SWIVEL ASSEMBLY
675	FLOW SWIVEL ASSEMBLY

NOTES:

① THIS SURFACE TO BE FACED W/ EUTECTIC WELDING ALLOY COAT EUTALLOY #10129 TO A FINISHED THICKNESS OF .015- .025. MACHINED & REBOUND TO SURFACE FINISH SHOWN.



APPROVED: *HK 400*



A. RAY WILBERTSON & CO., INC.

DATE: 1-28-66

ENGINEERS APPROVAL

PROJECT	2/3	10/1
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STRUCTURAL		
CONCRETE		

MECHANICAL		
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ELECTRICAL		
INSTRUMENT		

PAG. UNDO	22	2
END. UNDO		

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

NEW ORLEANS, LA.

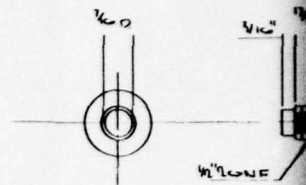
DRAWN BY	SCALE	DATE	PROJECT NO.
2-29-65	1:1	1-26-65	15A 2971

MANUFACTURER	JOB NO.	DATE	TEST NO.	TEST NO.
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	50017		221
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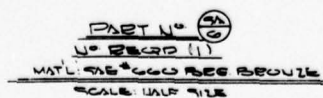
FLOW SWIVEL

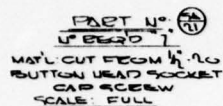
DETAIL SUP. N° 6



PART 1
1st BEAD
MAT'L CUT FROM
BUTTON HEAD &
CAP SCREW
SCALE: FULL

MILL 36- $\frac{3}{4}$ " DIM. HOLES EQUALLY SPACED TO DEPTHS SHOWN.

[illegible]



BE EQUALLY
SHOWN.

P 1/2. ZONE (THEU)

[illegible]

REFERENCE DRAWINGS

S/N	TITLE
271	FLOW UNIT SWIVEL ASSEMBLY
272	FLOW SWIVEL ASSEMBLY



APPROVED: H Lee

J. RAY McDERMOTT & CO., INC.
1-38-66

DATE: 1-24-66
ENGINEERS' APPROVAL:

	97	98
97年12月31日	111	112

PROJECT	982	130
STRUCTURAL		

PROCESS		
MECHANICAL		

ELECTRICAL		
INSTRUMENT		

FAB CHECK	<i>[Signature]</i>	9/1
PODP CHECK		

[illegible]

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONSULTANTS

NEW ORLEANS, LA.

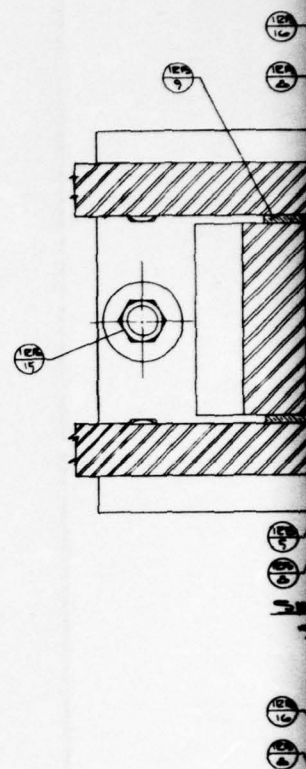
2099	NOTES	7-21-69	USA-291
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FABRICATORS JOB NO.	J. RAY BRIDGEMOTT JOB NO.	SHEET NO.
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1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399</
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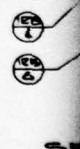
ELSW SWIVEL DETAIL SHEET U-1

[illegible]



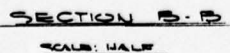
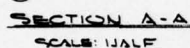
A technical drawing of a mechanical assembly, likely a valve or pump component, shown in a cross-sectional view. The drawing includes several callouts with numbers inside circles, pointing to specific parts of the assembly:

- Callout 1 points to a small cylindrical component at the top right.
- Callout 2 points to a larger cylindrical component in the center.
- Callout 3 points to a component at the bottom right.
- Callout 4 points to a component at the bottom left.
- Callout 5 points to a component at the bottom right, below callout 3.
- Callout 6 points to a component at the bottom right, below callout 5.



51

[illegible]

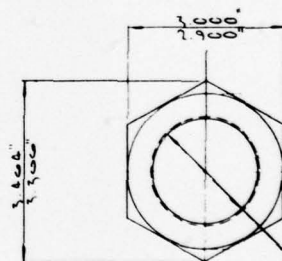


NEW ORLEANS, LA			
ISSUED BY DOSS	SCALE NOTED	DATE 5-6-65	PRIORITY NO. N44.2271
FURNITURE AND DR.		1 SET OF CHAIRS AND SOF.	UNIT NO. 001
<p align="center">ASSASSIN</p> <p align="center">INVEST. EACH OF 3-11 WHOLE</p>			

[illegible]



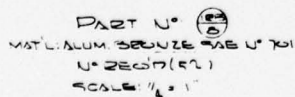
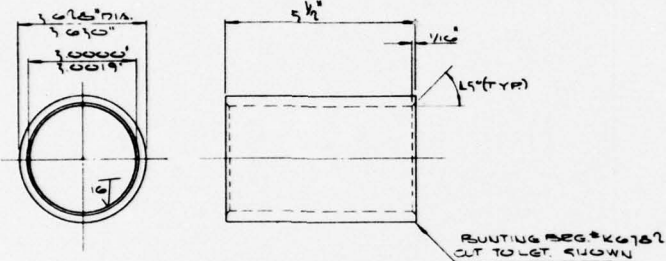
SECTION A-A



PART
MATERIAL: ALUM. 35
U-220
SCALE:

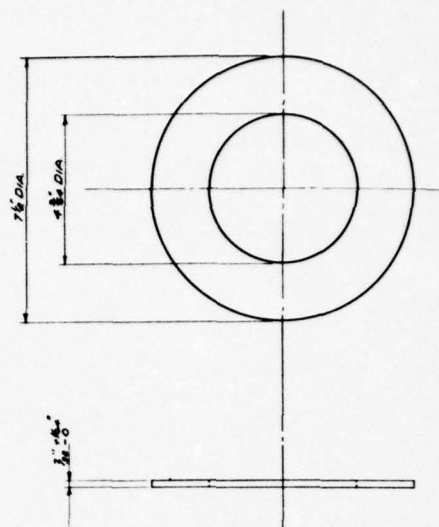
SECTION B-B

[illegible]




<p align="center">MONO-MOORING SYSTEM</p>			
<p align="center">FOR</p>			
<p align="center">U.S. ARMY ENGINEER RESEARCH & DEVELOPMENT LABORATORIES</p>			
<p align="center">FORT BELVOIR, VIRGINIA</p>			
<p align="center">J. RAY Mc DERMOTT & CO., INC.</p>			
<p>ENGINEERS</p>		<p>CONTRACTORS</p>	
<p align="center">NEW ORLEANS LA</p>			
<p>DESIGN BY</p> <p>2099</p>	<p>SCALE</p> <p>NOTED</p>	<p>DATE</p> <p>9-8-69</p>	<p>PROJECT NO.</p> <p>USA 2971</p>
<p>FABRICATION JOB NO.</p> <p>26017</p>	<p>J. RAY Mc DERMOTT JOB NO.</p>		<p>SHEET NO.</p> <p>35</p>
<p align="center">DETAILS SUBMIT</p>			
<p align="center">UNDER REPAIR WILL BE</p>			

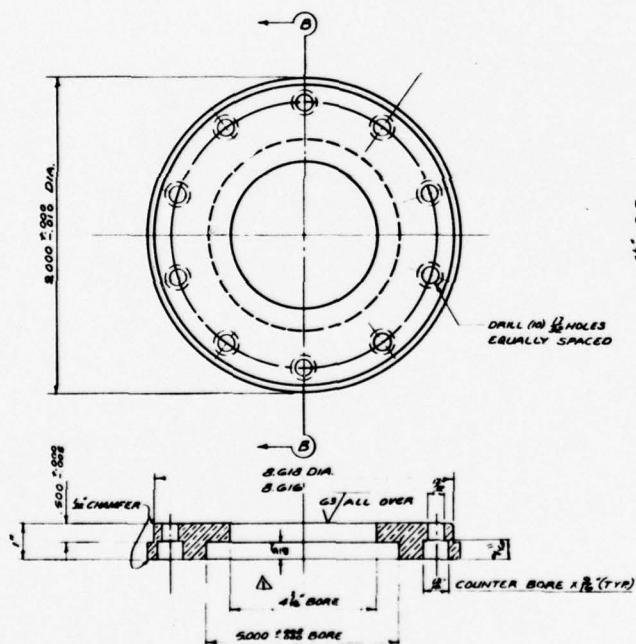
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


62-13 NC FULL

PART NO. 
MAT'L - TYP. 316 MO S/S
Nº REQ'D (16)
SCALE: HALF SIZE

PART NO. 0607
MAT'L: BRG BRONZE SAE #660
Nº REQ'D (16)
SCALE: HALF SIZE



PART NO. 
MAT'L. BAG BRONZE SAE "GGG"
N3 REQ'D (16)
SCALE: HALF SIZE

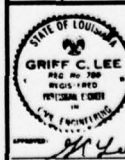
PART NO. 008
9
MAT'L - HRS
NO REQ'D (16)
SCALE: FULL SIZE

[illegible]

[illegible]

REFERENCE DRAWING


SHEET NO.	TITLE
250	OUTER RACE BOMIE WHEELS, ASSEMBLY & DETAILS



MONO-MOORING SYSTEM

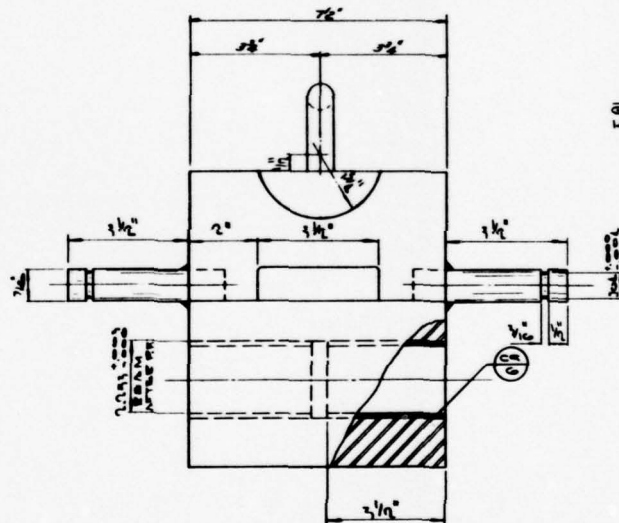
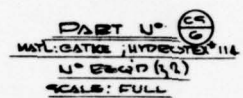
FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS

ENGINEER'S		NEW ORLEANS, LA.		CONTRACT NO.	
DRAWN BY	SCALE	DATE	PROJECT NO.		
FRANCHINA	NOTED	5-28-65	USA 2871		
FABRICATOR'S JOB NO.	J. DAY ON DISMOUNT JOB NO.		SHEET NO.		
56017			 7		

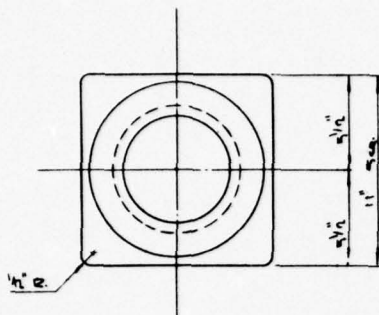
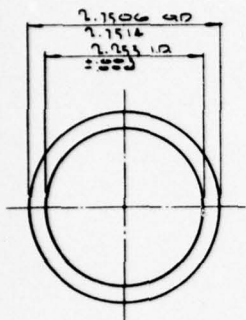
DETAILS
OUTER RACE BOGE WHEELS (SNT

[illegible]

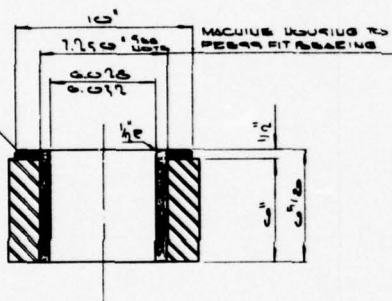


PART N^o ②9
MATL: MILD STEEL
N^o REQ'D (10)
SCALE: HALF SIZE

[illegible]



BEARING MAT'L
GATHIS COERCUT-114
HYDROTEX #114



PART N° 7
MAT'L: MILD STEEL WORKING
N° 2507 (16)
SCALE: 3" = 1" - 0"

BILL OF MATERIAL

ITEM N°	QTY.	NOMENCLATURE	SPEC.	MAT'L.
CR-1	16	PAWL		MILD STL.
CR-1	16	TELLURION BEARING		SEE DET.
CR-6	1/2	BEARING		GATE HYDROTEX

REFERENCE DRAWINGS

ITEM N°	TITLE
2507	ASSEMBLY - CHAIN STOPPER



DATE: 1-28-66

ENGINEER'S APPROVAL

DATE: 1-28-66

PROJECT: 2507

DESIGNER: J. RAY McDERMOTT & CO., INC.

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.

CONTRACTORS

NEW ORLEANS, LA.

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

DATE: 1-28-66

PROJECT: 2507

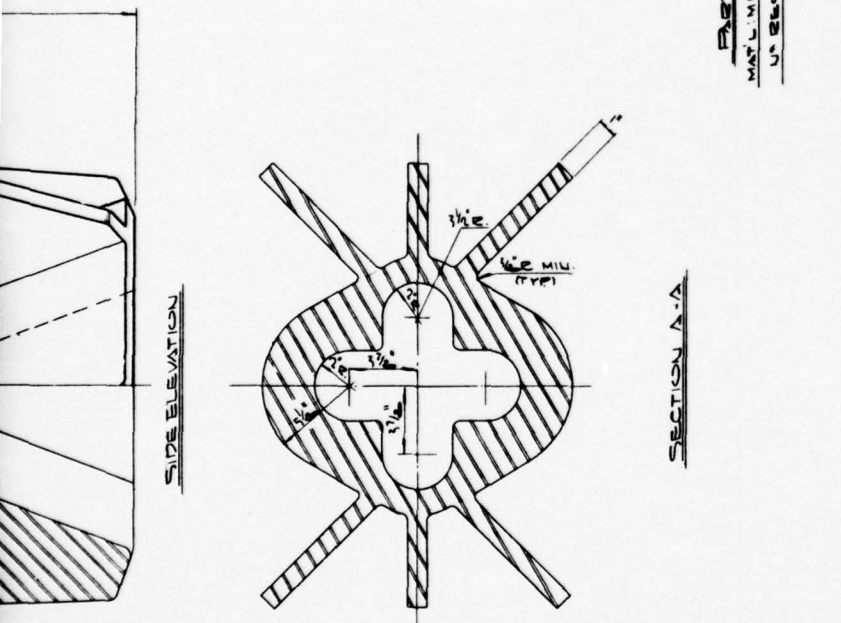
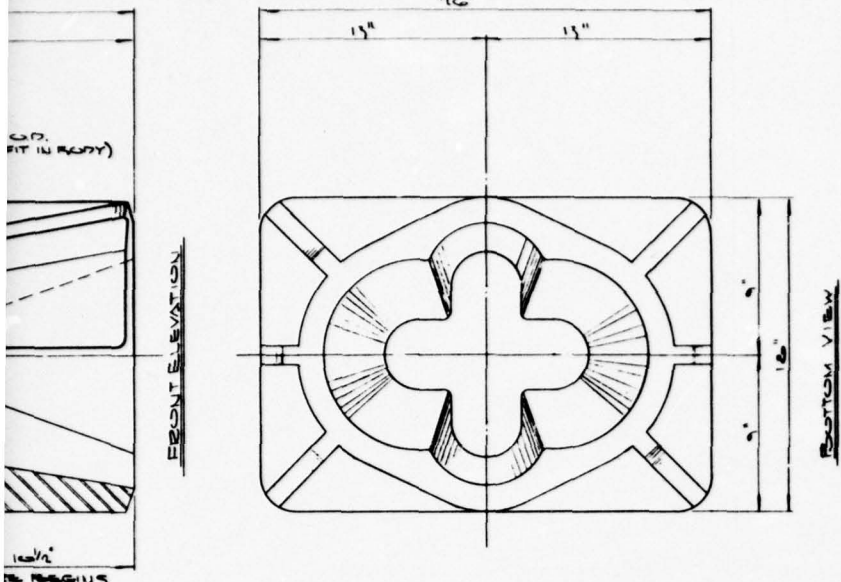
DATE: 1-28-66


PROJECT: 2507

DATE: 1-28-66

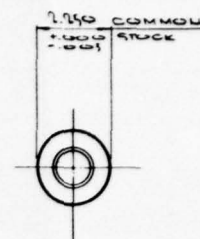
PROJECT: 2507

2

[illegible][illegible]

 <p>STATE OF LOUISIANA GRIFF C. LEE REG. NO. 786 REGISTRATION FOR ENGINEERS</p>	<p align="center">MONO-MOORING SYSTEM</p>																																								
	<p align="center">FOR</p>																																								
	<p align="center">U.S. ARMY ENGINEER RESEARCH & DEVELOPMENT LABORATORIES</p>																																								
	<p align="center">FORT BELVOIR, VIRGINIA</p>																																								
<p>EXPIRATION</p> <p><i>Mc Lee</i></p>	<p>A. RAY Mc DERMOTT & CO., INC. 1-28-66</p>																																								
<p>DATE OF EXPIRATION</p> <p>1-28-66</p>	<p align="center">J. RAY Mc DERMOTT & CO., INC.</p>																																								
<p>ENGINEERS</p>	<p align="center">NEW ORLEANS, LA.</p>		<p align="center">CONTRACTORS</p>																																						
<table border="1"> <tr> <td>PROJECT</td> <td>BY</td> <td>DATE</td> </tr> <tr> <td>FOUNDATION</td> <td><i>gfk</i></td> <td><i>1-14-66</i></td> </tr> <tr> <td>FOUNDERS</td> <td></td> <td></td> </tr> <tr> <td>MECHANICAL</td> <td><i>SP</i></td> <td><i>2-5</i></td> </tr> <tr> <td>ELECTRICAL</td> <td></td> <td></td> </tr> <tr> <td>PAID CHECK</td> <td><i>SP</i></td> <td><i>2-5</i></td> </tr> <tr> <td>PAID CASH</td> <td></td> <td></td> </tr> </table>	PROJECT	BY	DATE	FOUNDATION	<i>gfk</i>	<i>1-14-66</i>	FOUNDERS			MECHANICAL	<i>SP</i>	<i>2-5</i>	ELECTRICAL			PAID CHECK	<i>SP</i>	<i>2-5</i>	PAID CASH			<table border="1"> <tr> <td>BRAND OF</td> <td>SCALE</td> <td>DATE</td> <td>PROJECT NO.</td> </tr> <tr> <td>2009</td> <td>5" = 1' - 0"</td> <td>7-10-65</td> <td>USA 7971</td> </tr> <tr> <td>FABRICATOR AND NO.</td> <td>96017</td> <td>A DAY TO COMPLETION AND NO.</td> <td>SHEET NO.</td> </tr> <tr> <td></td> <td></td> <td></td> <td>290</td> </tr> </table>				BRAND OF	SCALE	DATE	PROJECT NO.	2009	5" = 1' - 0"	7-10-65	USA 7971	FABRICATOR AND NO.	96017	A DAY TO COMPLETION AND NO.	SHEET NO.				290
PROJECT	BY	DATE																																							
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FOUNDERS																																									
MECHANICAL	<i>SP</i>	<i>2-5</i>																																							
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			290																																						
<p align="center">CHAIN STOPPED DETAIL SHEET NO. 1</p>																																									

[illegible]

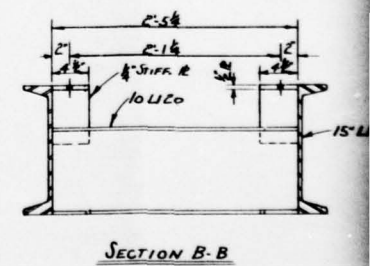
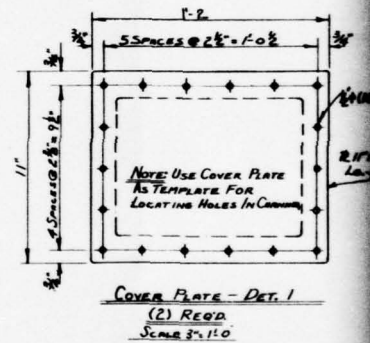
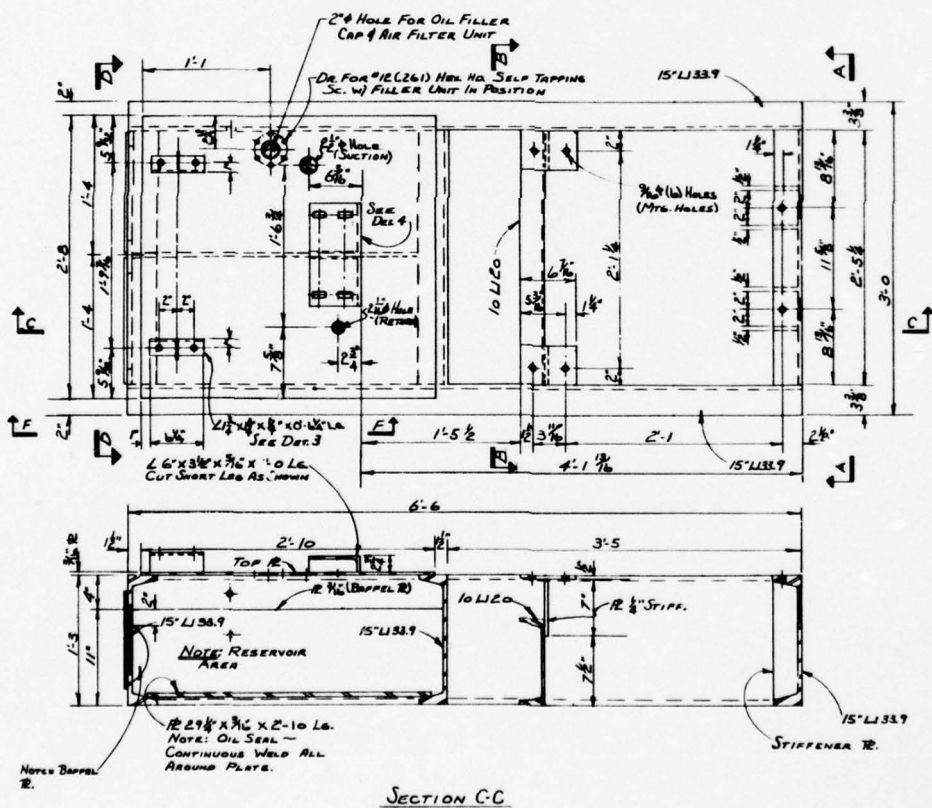
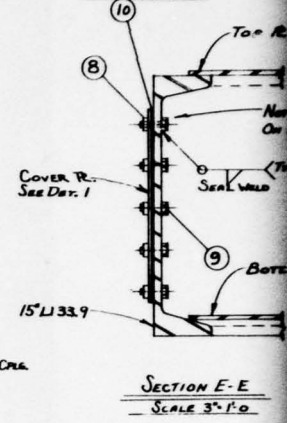
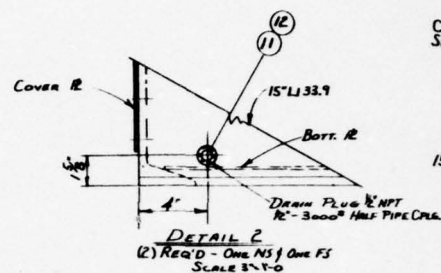
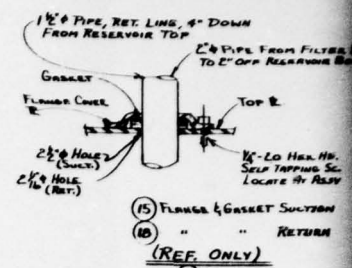


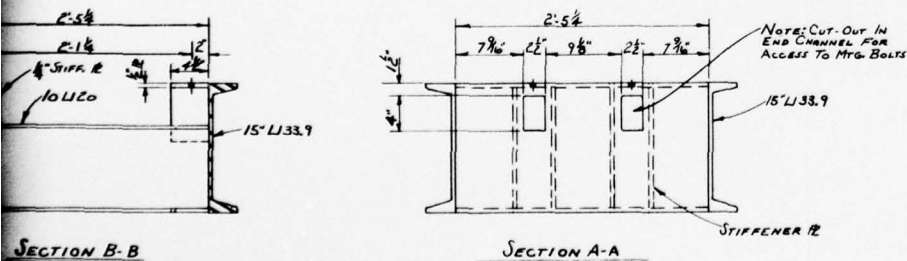
Hand-drawn technical drawing of a spring. The main view shows a spring with two coils. Dimensions include a total length of $12" \pm \frac{1}{4}"$, a coil diameter of $\frac{1}{4}"$, a pitch of $2.47"$, and a hook width of $\frac{1}{4}"$. A cross-section view on the right shows a circular profile with a diameter of $1" \pm .02$. The text "BUILT UP LOOK (CENTERS)" is written below the main view.

PART N° (59)
U° 2537 (16)
MAT'L: SAE 3036 S.S
GEARING: MOVEL
SCALE: FULL

<u>SPRING WORKING SPECIFICATIONS</u>	
OUTSIDE DIAM.	1"
PITCH DIAM.	2.91"
WIRE DIAM.	.162
INITIAL TENSION	1000
NO. COILS	66
COIL LENGTH	9.67
LET. INSULIN BLOCKS	12
APPROX. SPRING RATE	16.5/IN. SECTION
TOTAL DEFLECTION	6" MAX.

[illegible]

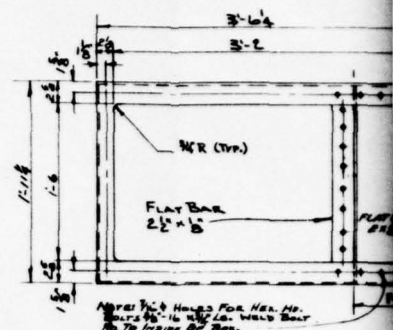
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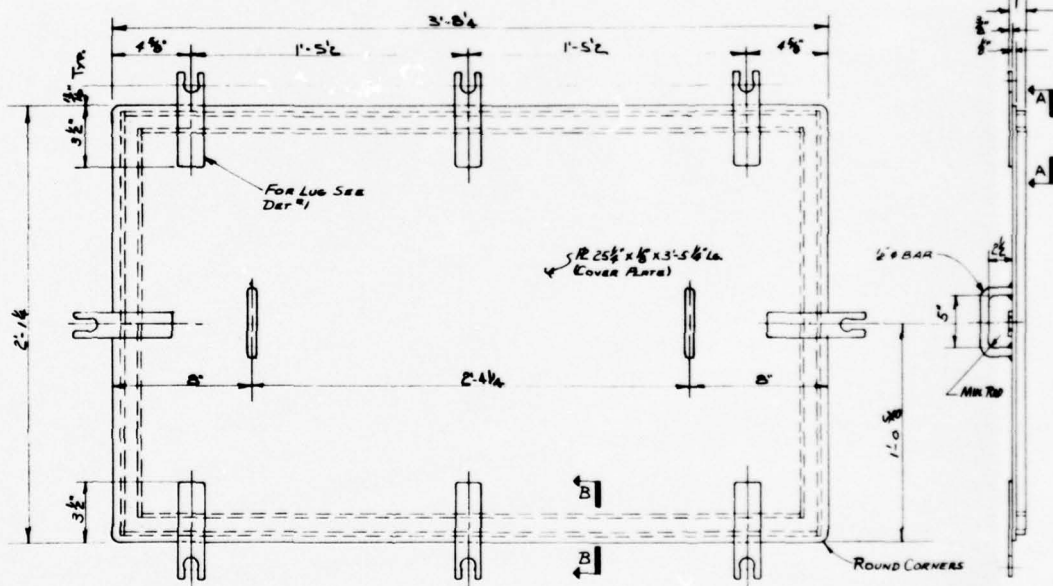
REFERENCE DRAWINGS	
DWG. NR.	TITLE
003	ARRANGEMENT PLAN
801	MACHINERY DECK FRAMING PLAN
802	BUOY WINCH HYDRAULIC SYSTEM PIPING SKID PLAN

INSTRUMENT		
PAB. CHOICE	2P	9A
PROP. CHOICE		

HYDRAULIC PUMPING UNIT & FON. DET.

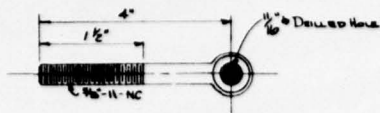


VIEW 894-C
SHEET 823
SCALE 1/2" = 1'-0"

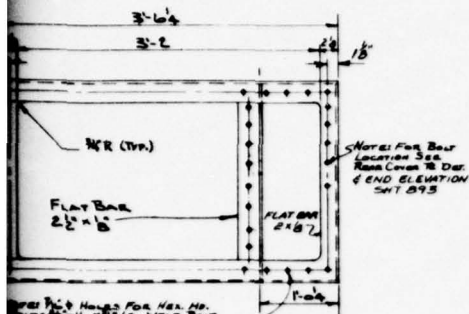


⑨ FRONT COVER
SCALE 3" = 1'-0"

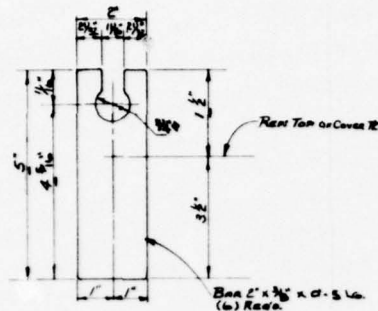
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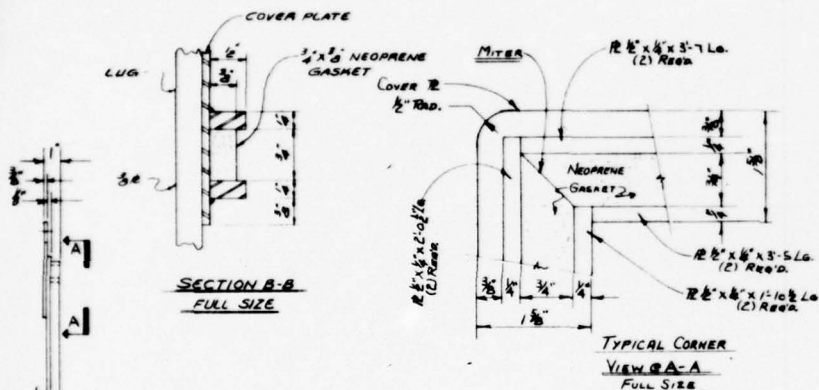
11 ROD END
(EQUAL TO WILLIAMS #7B)



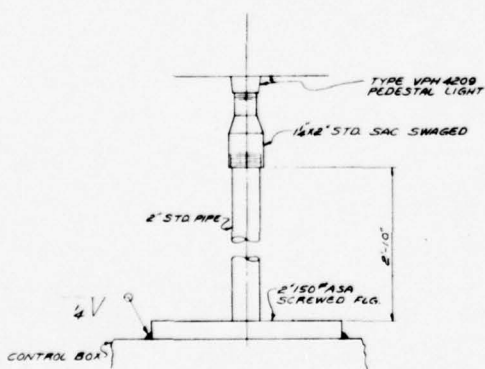
VIEW 894-C
SHEET 893
SCALE 1/8"=1'-0"



LUG - DETAIL #1



TYPICAL CORNER
VIEW 894-A
FULL SIZE



LAMP STAND DETAILS
NO SCALE
SEE SHT 001

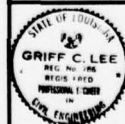
BILL OF MATERIAL

FIND NO.	QTY	NOMENCLATURE	SPEC.	MAT'L.
8	894	1	REAR COVER PLATE	STEEL
9	894	1	FRONT COVER	"
11	894	8	ROD END	ALUMINUM

REFERENCE DRAWINGS

DWG. NO.	TITLE
893	HYDRAULIC & ELECTRICAL CONTROL BOX LAYOUT & DETAILS

NOTE
SEE SHT 893 FOR COATING INSTRUCTIONS



J. RAY McDERMOTT & CO., INC.
1-28-66

ENGINEERS APPROVAL

PROJECT

STRUCTURAL

MECHANICAL

ELECTRICAL

INSTRUMENT

PAV. CHECK

PROP. CHECK

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

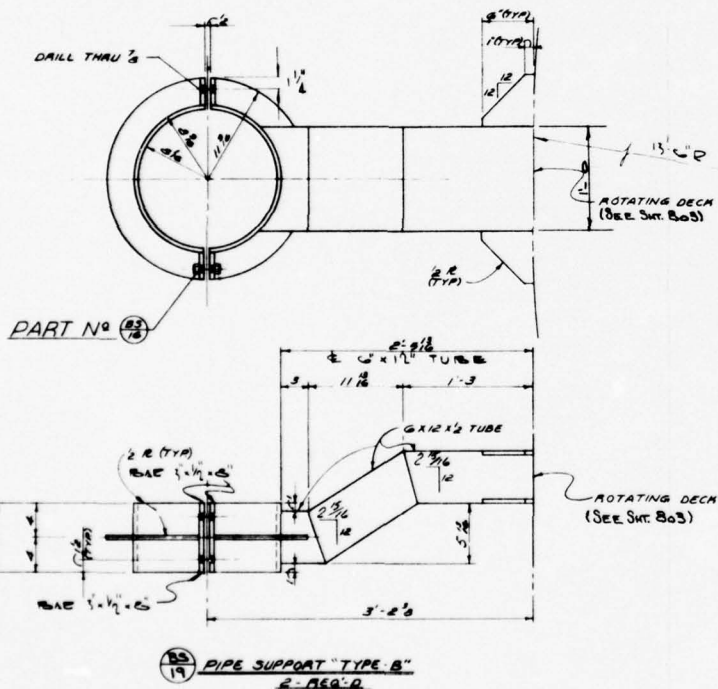
DATE 8-19-65

PROJECT NO. U.S.A. 2971

FABRICATORS JOB NO. 56017

J. RAY McDERMOTT JOB NO. 894

HYDRAULIC & ELECTRICAL CONTROL BOX LAYOUT & DETAILS



FLOW SYSTEM PIPE
SUPPORT DETAILS

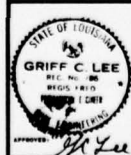
$$I_2' = 1.0$$

BILL OF MATERIAL

[illegible]

REFERENCE DRAWINGS

SHT NO	TITLE
870	FLOW SYSTEM PIPING ARRANGEMENT
803	ROTATING DECK FRAMING PLAN



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

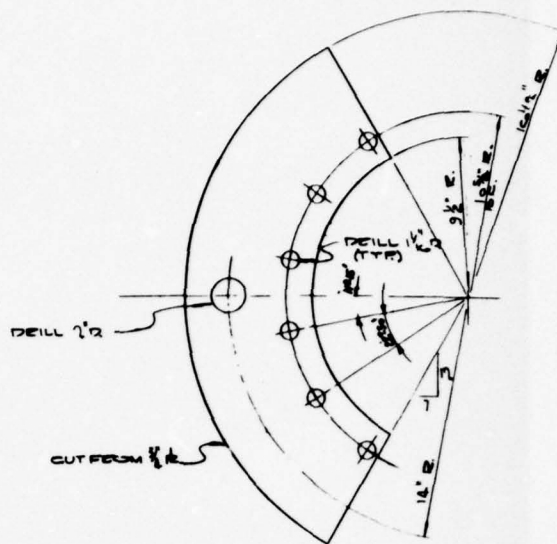
J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

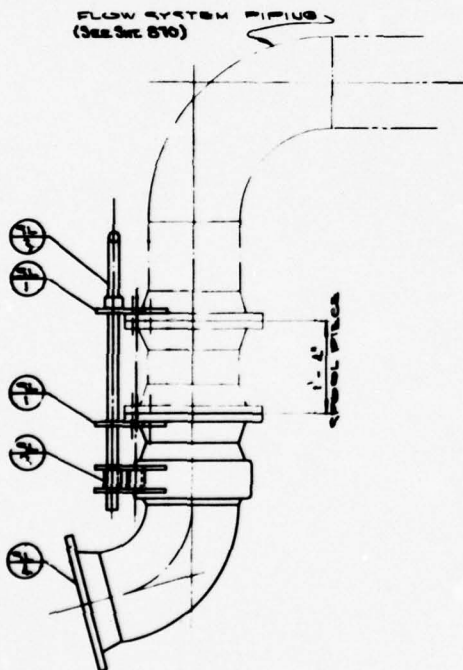
DRAWN BY	SCALE	DATE	PROJECT NO.
FRANCHINA	NOTED	8-17-65	USA 2971
FABRICATORS JOB NO.	56017	J BAY INC DERROTT JOB NO.	SHEET NO.
			895

FLOW SYSTEM PIPE SUPPORTS

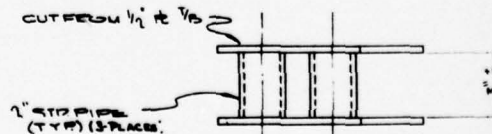
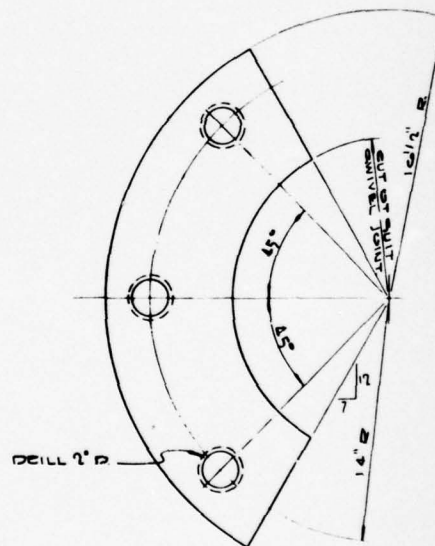
[illegible]



PART V^o (94)
V^o ELD 7th A.
MALT: MILD W.E.S. (GALV AFTER FEB)
SCALE: 1st 1.0



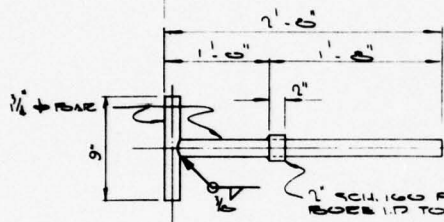
ASSEMBLY
SWIVEL LOCK
SCALE: 1" = 1'-0"



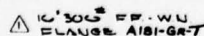
PART N° (5)
U° BEAD "2"
MAT'L: MILD STEEL
SCALE: 3" = 1' - 0"

NOTE GAIN AFTER FAD

[illegible]



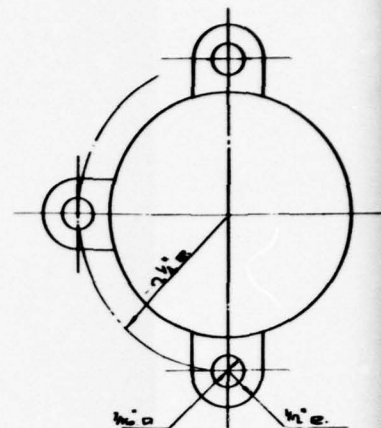
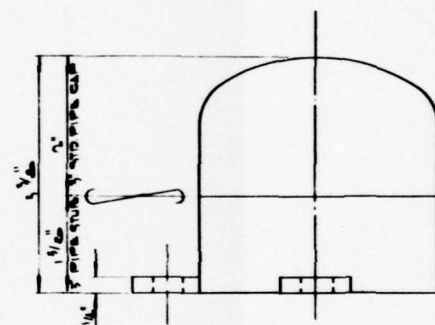
PART N° (3)
N° 86477 EACH SIDE (SEE NOTE)
MALT: 125 (GALV.)
SCALE: 1/2" = 1' - 0"



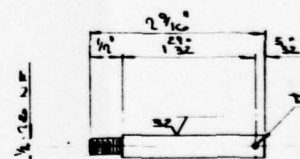
BILL OF MATERIAL


FLUE SYSTEM PIPING

[illegible]

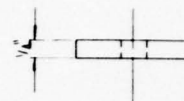
[illegible]

PART 1 EC
1
1" ELEVATION
MATERIAL: A234-B
SCALE: FULL

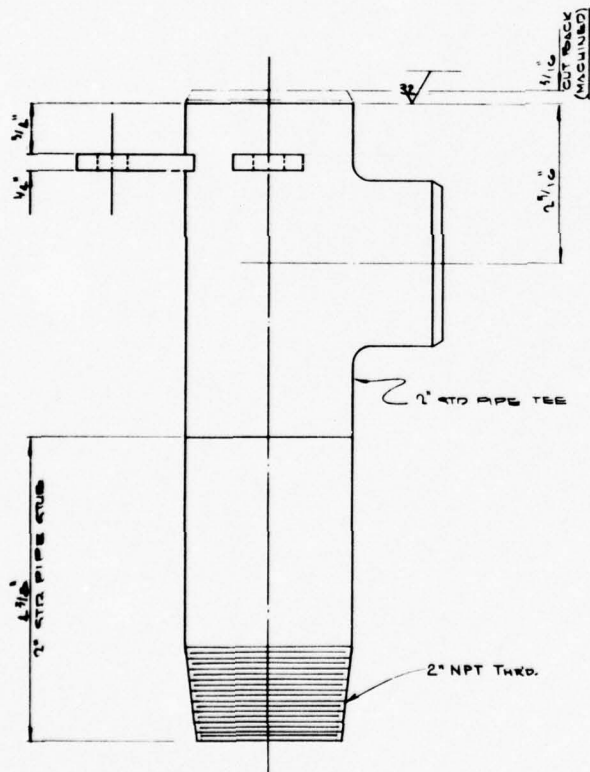



PART N° 
 N° REC'D "1"
 MAT'L. AISI-TYPE 316
 SCALE: FULL

[illegible]



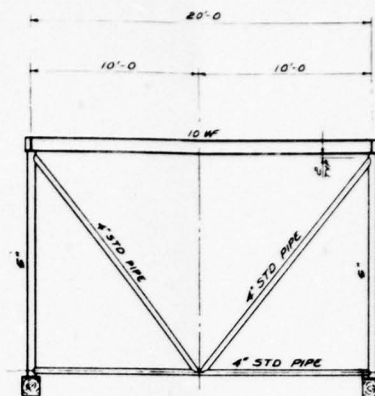
PART N° EC
9
N° 264731°
MATERIAL: NYLON 101
SCALE: FULL



PART N°: 
4" B&G D "1"
MAT'L: STEEL
SCALE: FULL

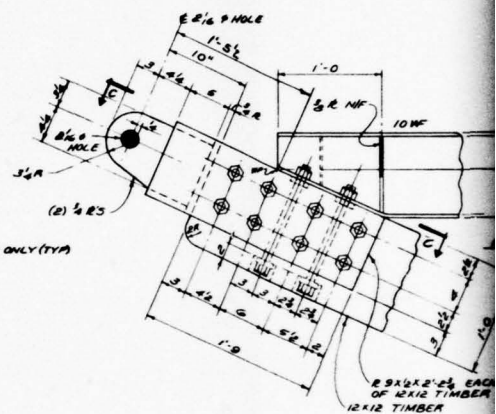
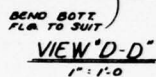
[illegible]

900 - LAUNCHING

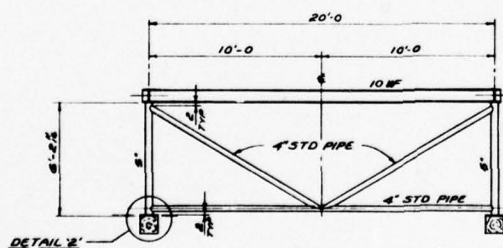


SECTION 'B-B'

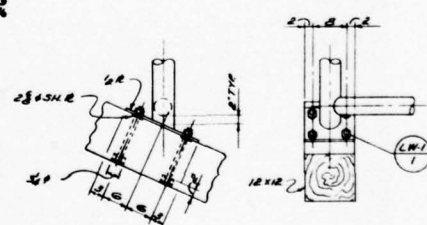
PLAN



DETAIL 'I'

 $1\frac{1}{2}'' \times 1'-0$ ELEVATION

SECTION 'A-A'

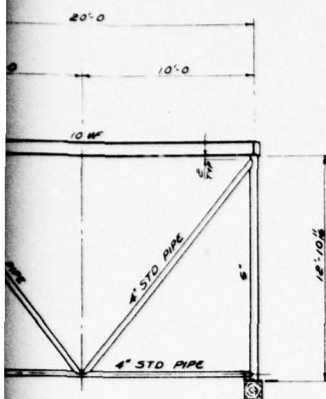


DETAIL '2'

2510

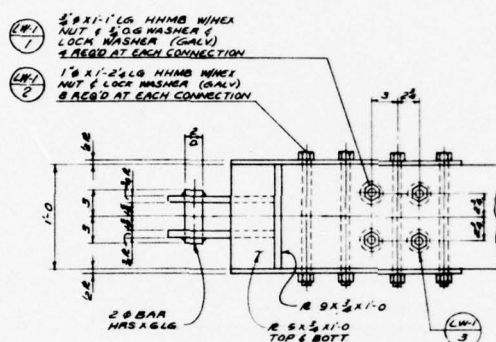
LAUNCHING SKID $\left(\frac{LW}{I} \right)$

$$1'' = 1'-0$$
[illegible]



LIFTING EYE DETAIL

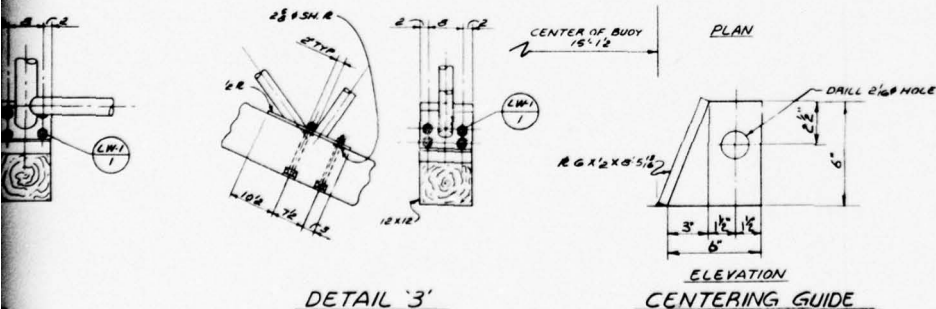
4- REQ'D
3" x 1'-0"



SECTION 'C-C'

DETAIL 'I'

1/2" x 1'-0"



DETAIL '3'

3/4" x 1'-0"

ELEVATION CENTERING GUIDE

BILL OF MATERIAL

FIND NO	DWG NO	QTY	NOMENCLATURE	SPEC	MAT'L
LW-1	901	1	LAUNCHING SKID	SPECIFICATIONS	MILD STEEL
LW-2	901	40	1/2" x 1'-0" HMMB W/NER NUT & 5/16" WASHER (GALV)	ASTM A307	STEEL
LW-3	901	10	1/2" x 1'-0" HMMB W/NER NUT & 5/16" WASHER (GALV)	ASTM A307	STEEL
LW-4	901	40	1/2" x 1'-0" HMMB W/NER NUT & 5/16" WASHER (GALV)	ASTM A307	STEEL

REFERENCE DRAWING

SHT. NO	TITLE
900	LAUNCHING ARRANGEMENT



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.

ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

PROJECT NO. USA-2971

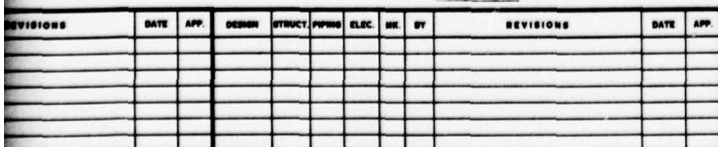
DATE 8-24-65


BY FRANCHINA

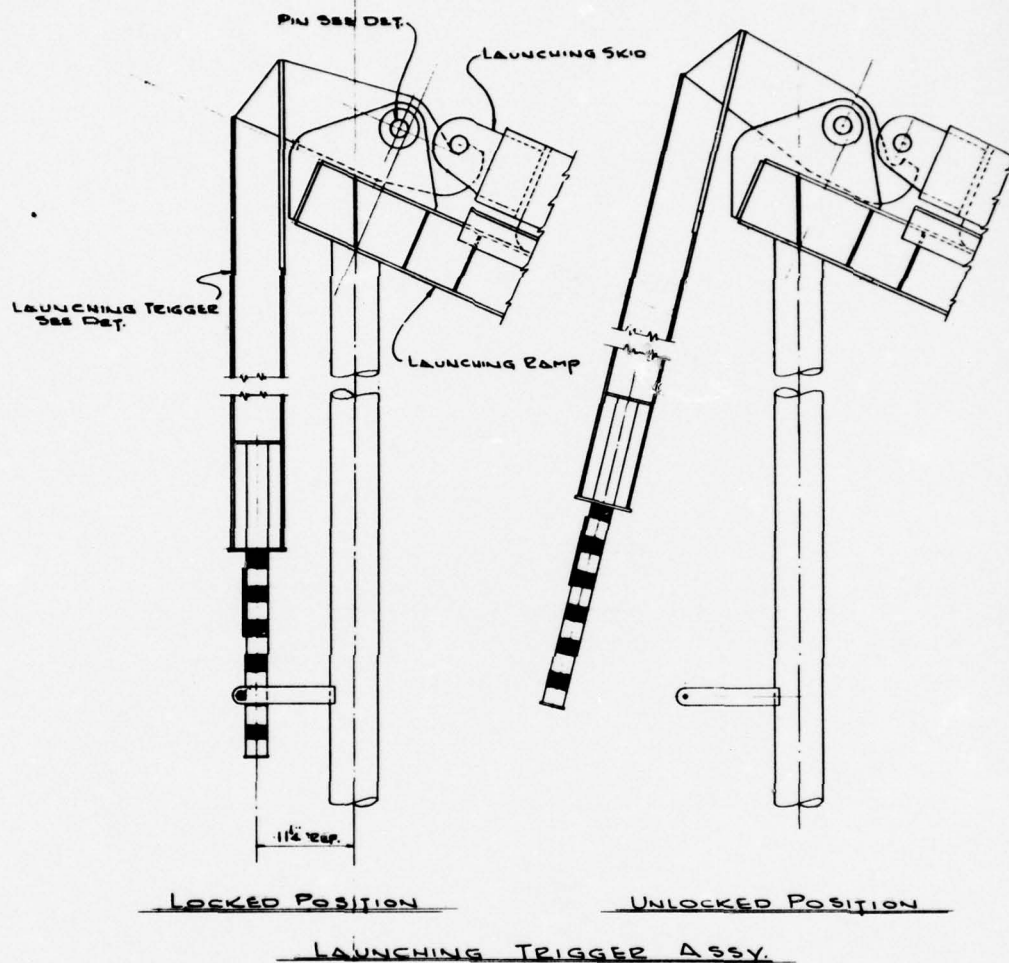
NOTED

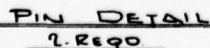
56017

LAUNCHING SKID



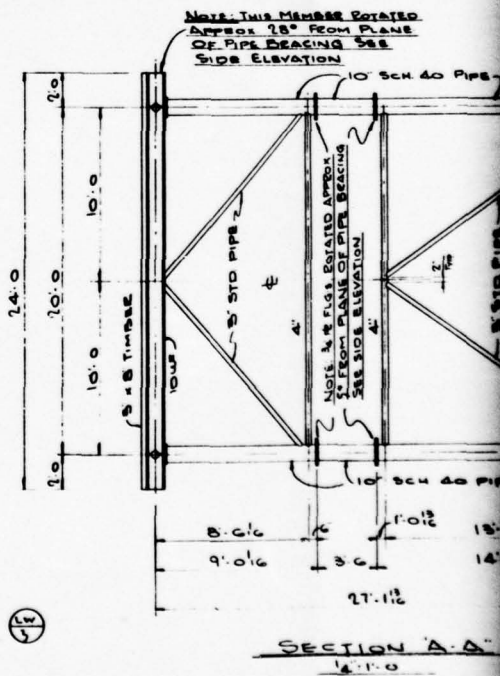
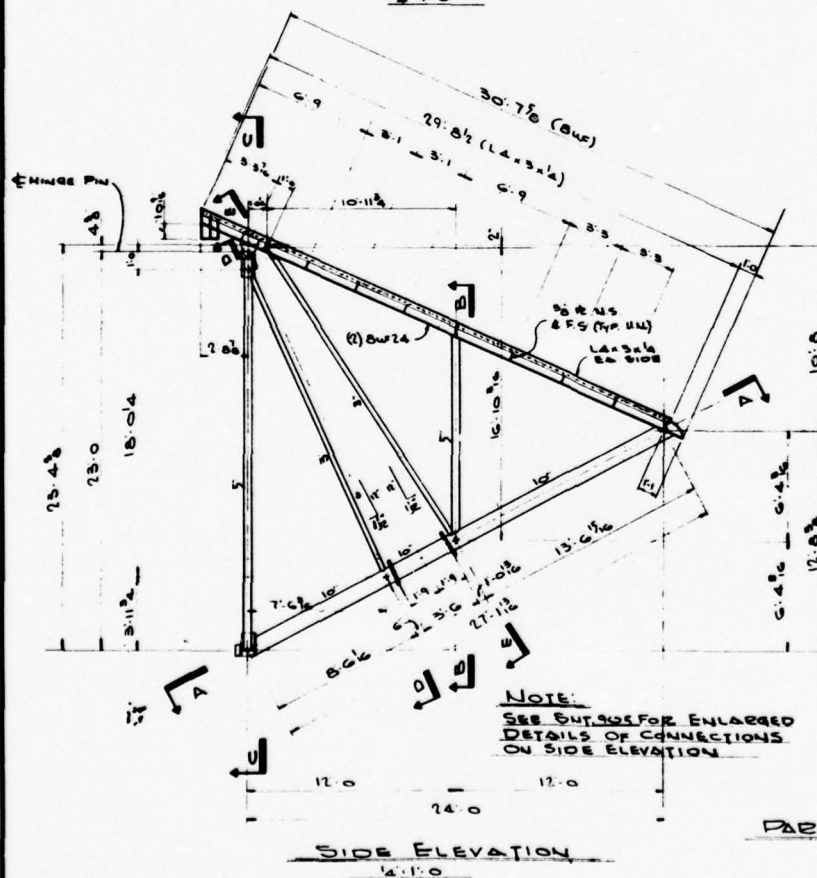
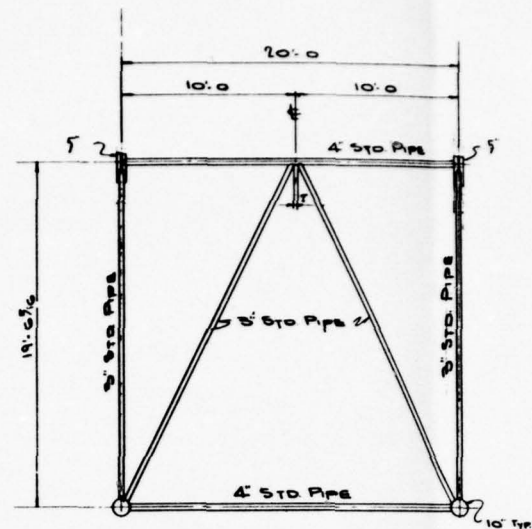
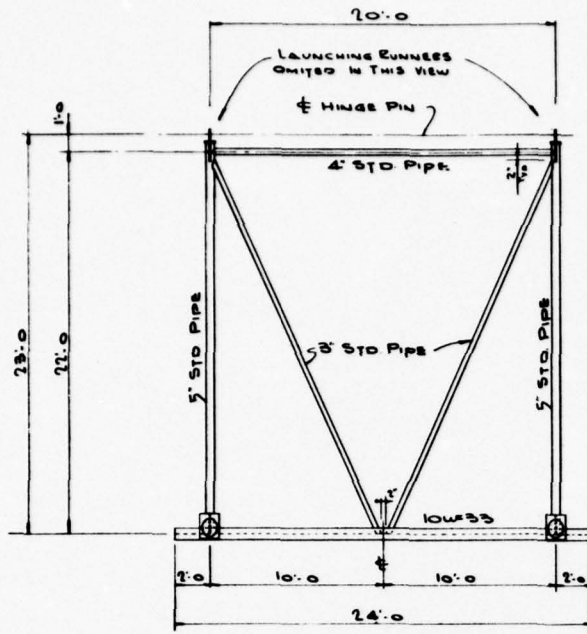
	<h1>MONO-MOORING SYSTEM</h1>
APPROVED: <i>[Signature]</i> J. RAY MC DERMOTT & CO., INC. DATE: <i>7-27-66</i>	<h2>FOR U.S. ARMY ENGINEER RESEARCH & DEVELOPMENT LABORATORIES FORT BELVOIR, VIRGINIA</h2> <h3>J. RAY MC DERMOTT & CO., INC.</h3>
ENGINEERS' APPROVAL PROJECT: <i>500-1300</i> SPECIAL: <i>FOR 1300</i> DESIGN: <i>FOR 1300</i> MATERIAL: <i>FOR 1300</i> ELECTRICAL: <i>FOR 1300</i> MECHANICAL: <i>FOR 1300</i> FABRICATION: <i>FOR 1300</i> INSPECTION: <i>FOR 1300</i> DATE: <i>7-27-66</i>	ENGINEERS: NEW ORLEANS, LA. CONTRACTORS: DESIGN BY: SCALE: DATE: PROJECT NO: F.B. 50100 6-24-65 USA-2971 FABRICATIONS JOB NO. 56017 1 SAT BELVOIR (7) AND 800. 907 <h3>LAUNCHING RAMP "4" x "1"</h3>

[illegible]



LAUNCHING RAMP SUT. 2"

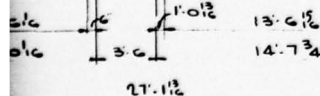
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[illegible]



SECTION "E-E"

14.150



SECTION 'A-A'

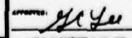
14.1.9



14" x 11" O

REFERENCE DRAWING

SHT#	TITLE
900	LAUNCHING ARRANGEMENT
905	LAUNCHING RAMP EXTENSION "SHT-2"



J. RAY SHENBROT & CO., INC.
DATE: 1-28-66

ENGINEERS APPROVAL

	BY	DATE
PROJECT	<i>gk</i>	1-12

STRUCTURAL	J.C.A.	10-26
PROCESS		

MECHANICAL		
ELECTRICAL		

INSTRUMENT		
NO. 10000	2	1

PAN. CHICK		
PROP. CHICK		

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY McDERMOTT & CO., INC.
ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

DATE	PLACE	DATE	PRODUCT NO.
F.B.	NOTED	B-25-65	USA-297

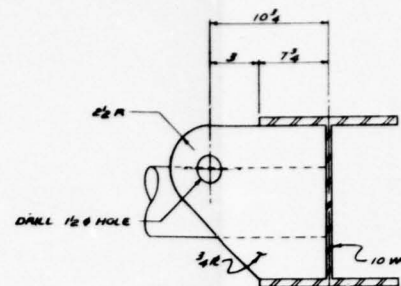
FABRICATORS JOB NO.	J. BAY BY BERRIOTT JOB NO.	SHEET NO.
---------------------	----------------------------	-----------

76511	76512
-------	-------

LAUNCHING RAMP EXTENSION SHT. 1

[illegible]

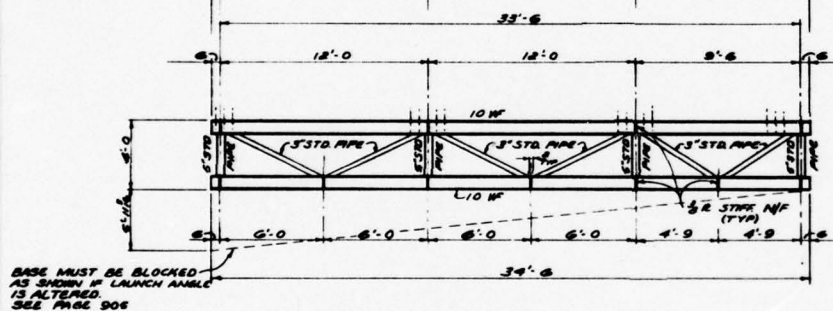
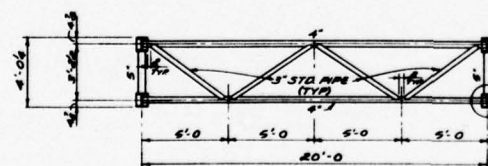
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LIFTING EYE DETAIL

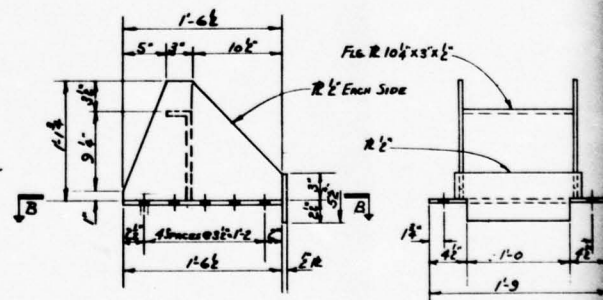
4-REQ'D
3" = 1'-0"

PLAN
TOP & BOTT. CHORD

ELEVATION

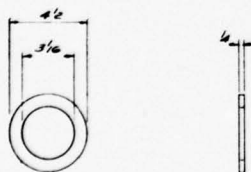
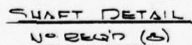
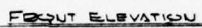
SECTION 'A-A'
TYPICAL IN THREE PLACES

PART N° 
1-1-0

[illegible]

[illegible]

[illegible]




BRONZE THRUST WASHER
CAST PHOSPHOR
2-REQ'D
1" 11.0

[illegible][illegible]

REFERENCE DRAWINGS	
DWG#	TITLE
909	CHAIN TRANSFER FAIRLEAD
911	do DETAIL SHIT. N° 2



APPROVED: *Ch Lee*



DATE: 11-20-66

ENGINEERS APPROVAL

	BY	DATE
PROJECT	AKS	1-27-0

STRUCTURAL	J.C.A.	10-28-61
PROCESS		

MECHANICAL		
ELECTRICAL		

INSTRUMENT		
PAGE NUMBER	42	43

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

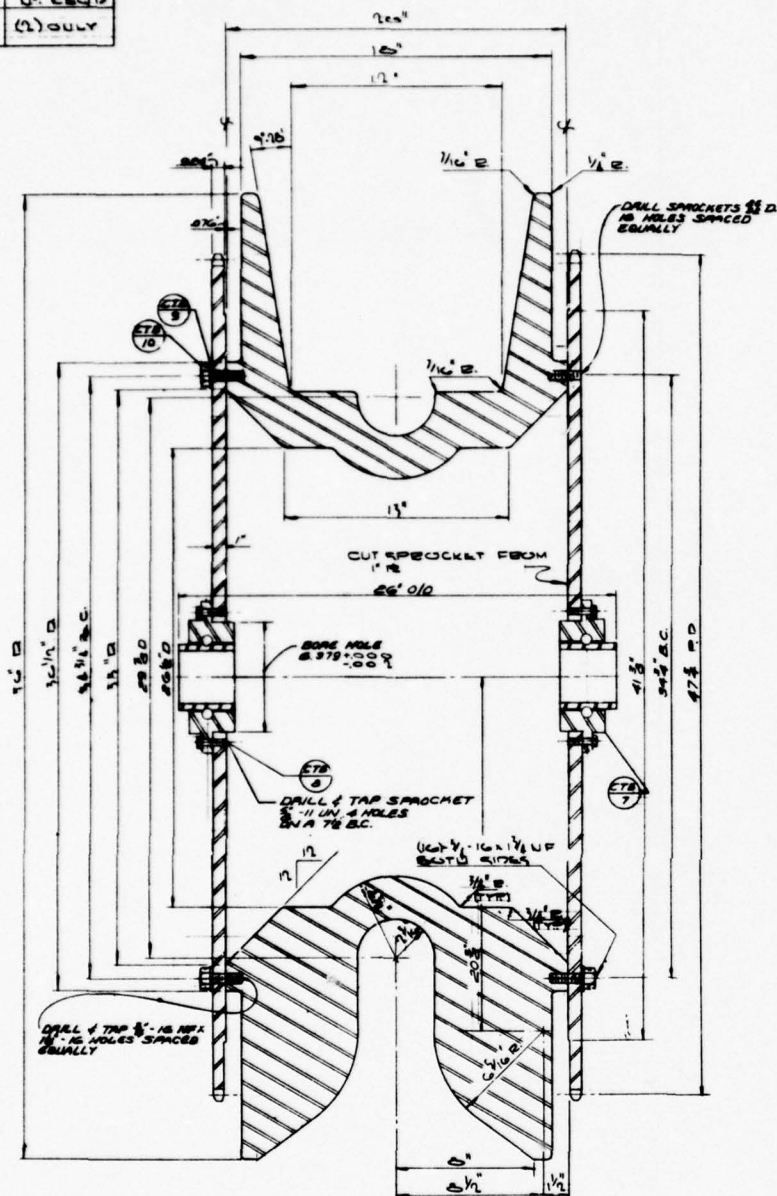
ENGINEERS **CONTRACTORS**

NEW ORLEANS, LA.			
DRAWN BY	SCALE	DATE	PROJECT NO.

255	1/16" = 1"	9.71.69	USA-297
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ASSIGNORS JOB NO.	56017	J. BAY McDERMOTT JOB NO.	SHEET NO.
			910

<u>BILL OF MATERIAL</u>					
FIG. NO.	DWG. NO.	QTY.	NOMENCLATURE	SPEC.	MAT'L
CTB-7	913	2	3" SEAL MASTER NFA 40		
CTB-8	913	5	5" x 2" LG. NUTS		
CTB-9	913	32	5/8" STD. WASHER		
CTB-10	913	32	5/8" x 2" H.H.N.B. 10 NPK		



REFERENCE DRAWINGS	
FIGURE	TITLE
919	CHAIN TRANSFER ROOM



MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

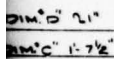
J. RAY Mc DERMOTT & CO., INC.

ENGINEERS NEW ORLEANS, LA. CONTRACTORS

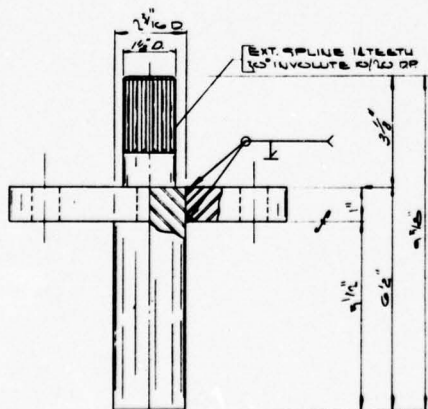
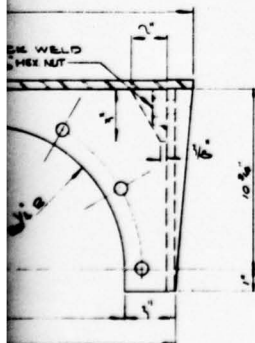
GRAPH BY BGG	SCALE 3" = 1' 0"	DATE 9-28-69	PROJECT NO. UGA-2971
FABRICATION JOB NO.	56017	J. RAY McREYNOLTS JOB NO.	SHEET NO. 913

CHAIN TRANSFER BLOCK
WILDCAT DETAILS

[illegible]



CHAIN TRANSFER BOOM SEE
SHT. 912 & SHT. 014



PART NO. (40)
N° BERT (2)
MATL: CBR.
SCALE: HALF SIZE

[illegible]

REFERENCE DRAWINGS	
FIG. NO.	TITLE
919	CHAIN GUARD FOR BOOM HYD MOTOR
912	CHAIN TRANSFER BOOM

AUT. NO.	TITLE
919	CHAIN GUARD FOR BOOM HYD MOTORS
912	CHAIN TRANSFER BOOM



APPROVED: *[Signature]*

J. DAY WEDGEMOTT & CO., INC.
DATE: 15/6/66

ENGINEERS' APPROVAL

	BY	DATE
PROJECT	1/3	1/3/84

STRUCTURAL		
FUNCTION		

EDUCATIONAL	AP	AP
EXPERIENCE		

1. 姓名		
2. 性别		
3. 年龄		
4. 职业		
5. 住址		
6. 联系电话		
7. 电子邮箱		
8. 其他信息		

PAID. CHECK		
POOR. CHECK		

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

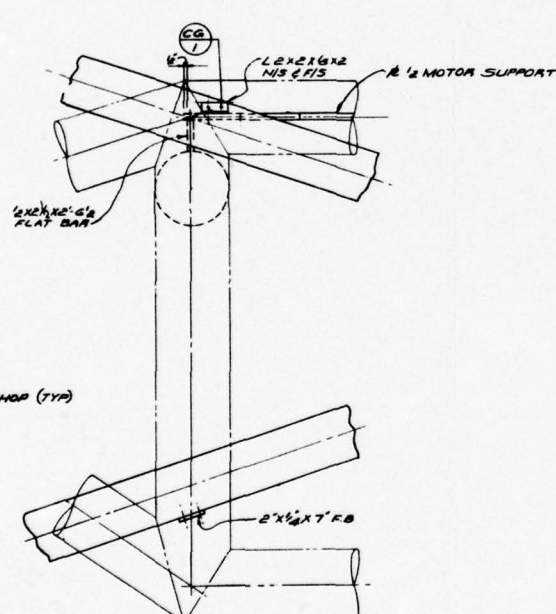
NEW ORLEANS, LA.

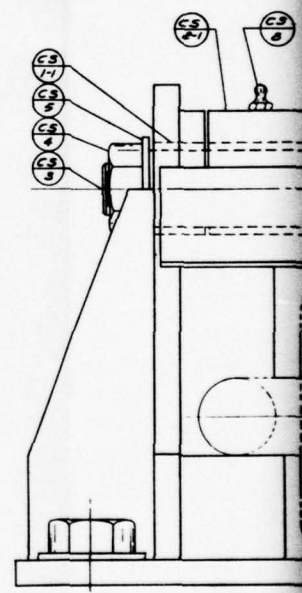
DATE IN	DATE	DATE	PROJECT NO.
0000	NOTED	9. 1. 65	USA-297

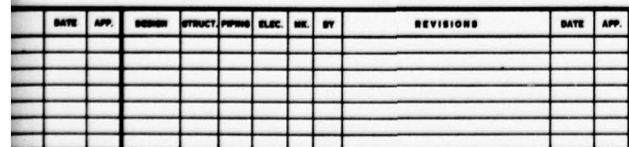
FABRICATORS JOB NO.	J. RAY & BERNHART JOB NO.	ORDER NO.
---------------------	---------------------------	-----------

56017	914
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CUMMINS B60M114D
MOTOR ASSEMBLY

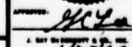
[illegible]

[illegible]



FIND NR	DWG NR	QTY	NOMENCLATURE	SPEC.	MAT'L
CS-1	SEE SMT 917		BODY		N/A3
CS-1-1			3" ID 1/8" GROSS CUT FIRM BURNING INDUSTRIAL TYPE BRASS 1-6TH		BRONZE
CS-2			RAWL		CAST STEEL
CS-2-1			3" ID 1/8" GROSS BURNING INDUSTRIAL TYPE BRASS 1-6TH		BRONZE
CS-3			SHAFT		CAS
CS-4	916	2	2" GUN HEAVY HEX NUT		STEEL
CS-6	916	2	2" STD. FLAT WASHER		STEEL
CS-6	916	3	2" GUN X 42" BOLT		STEEL
CS-7	916	3	2" STD. FLAT WASHER		STEEL
CS-8	916	2	LINCOLN NB 600 3"-20 THREAD GREASE FITTING		

SHT. NO	TITLE
917	CHAIN STOPPER DETAILS SHT. 1
918	CHAIN STOPPER DETAILS SHT. 2

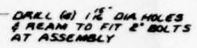


FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

ENGINEERS		NEW ORLEANS, LA.		CONTRACTORS	
DRAWN BY	SCALE	DATE	PROJECT NO.		
FRANCHINA	3" = 1"	10-16-58	USA-2971		
REVISIONS JOB NO.	56017	J. BAYNE & COMPANY JOB NO.	SHEET NO.		
			218		

CHAIN STOPPER ASSEMBLY

[illegible]

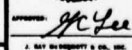
PART NO (CS)
NO REQ'D 1
MAT'L - HRS
SCALE: 3:1

[illegible]

2

100

SHEET NO	TITLE
916	CHAIN STOPPER ASSEMBLY
915	CHAIN STOPPER DETAILS SHT. 2



FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

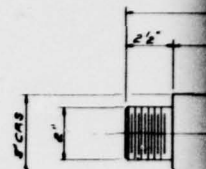
ENGINEERS CONTRACTORS

FRANCHINA	5.1°	10-14-65	USA-2071
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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CHAIN STOPPER DETAILS SNT. 1

[illegible]

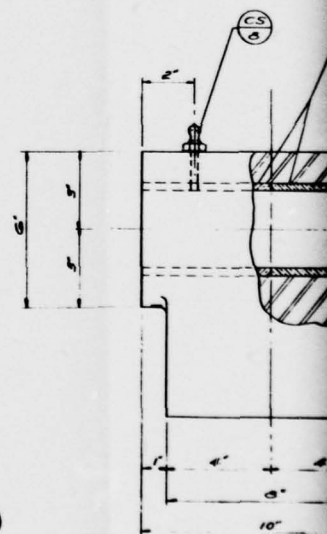


Technical drawing of a mechanical assembly, showing a side view of a shaft and a cross-section of a pulley.

Dimensions and Labels:

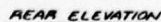
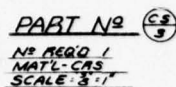
- Overall length: $20\frac{1}{2}"$
- Shaft length: $20"$
- Offset distance: $\frac{3}{4}"$
- Shaft diameter: $1\frac{1}{2}"$ (labeled as BAR $1\frac{1}{2} \times 1'-8LG$)
- Bracketed section: $3\frac{1}{2} \times 6 LG$
- Pulley diameter: $2\frac{1}{2}"$
- Pulley width: $1\frac{1}{2}"$
- Note: DRILL & TAP $\frac{1}{2}"$ INPT FOR GREASE FITTING 2 PLACES

PART NO (CS
2)
NO REQ'D - 1
MAT'L - CAST STEEL
SCALE - 8" 1"



REAR ELEVATION

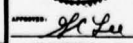
[illegible]



- BORE HOLE TO $3\frac{5}{8}$ " DIA.
FOR PRESS FIT OF PART
C6/24. REAM I.D. AFTER PRESS
FITTING TO 3.008 " DIA. $\pm .004$ "

[illegible]

SHT NO	TITLE
916	CHAIN STOPPER ASSEMBLY
917	CHAIN STOPPER DETAILS SHT. I



J. RAY B. DERROTT & CO., INC.
DATE: 12-9-66

ENGINEERS APPROVAL

	BY	DATE
PROJECT	2/5	1978

STRUCTURAL		
ENGINEER		

MECHANICAL	<i>[Signature]</i>	<i>[Signature]</i>
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SLIP PAGE AS		
INSTRUMENT.		

FAB. CHECK	<input checked="" type="checkbox"/>	1-1-6
PROP. CHECK	<input type="checkbox"/>	

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

ENGINEERS

NEW ORLEANS, LA.			
DRAWN BY	SCALE	DATE	PROJECT NO.

FRANCHINA	5' : 1"	10-15-GS	USA-2971
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ABRICATORS JOB NO.	J. RAY McDERMOTT JOB NO.	SHEET NO.
--------------------	--------------------------	-----------

56017	9/18
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CHAIN STOPPER DETAIL SKT 2

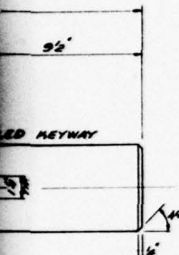
CHAIN STOPPER DETAIL SAT. E

[illegible]

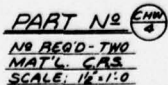
CHAIN STOPPER DETAIL SHT. 2

CHAIN HANDLING WINDLASS DETAILS SHT-1

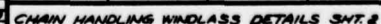
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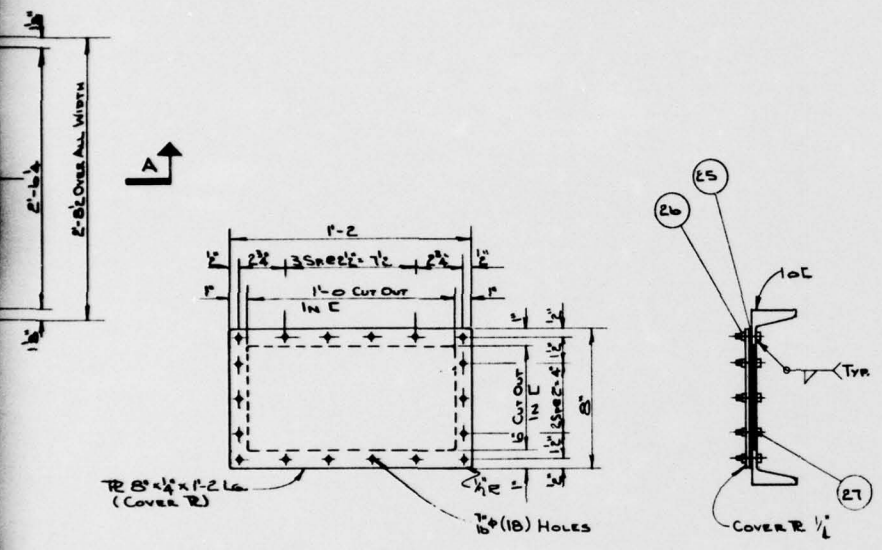


Technical drawing of a vertical assembly. Callouts include: ENH 7, SPACCHET N° 3, PART N° 7-1. Dimensions: 2.683, 1.759, 9 5/8, 2 1/2, 1/8, 5 (1/16).



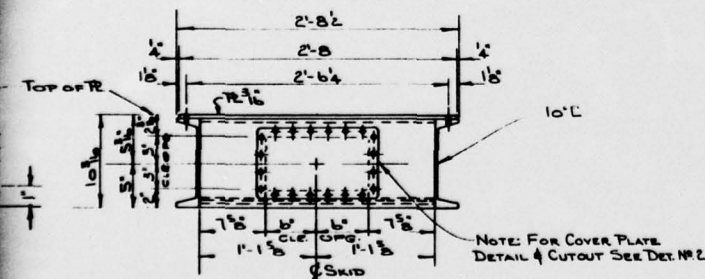
FIND NR	DWG NR	QTY	NOMENCLATURE	SPEC.	MAT'L
CNW-2	921	1	SHAFT		CAS
CNW-3	921	1	SHAFT		CAS
CNW-4	921	2	SPACER RING		CAS
CNW-5	921	6	THRUST BEARING		BAG BRONZE
CNW-6	921	2	TRIPLE SPACNET		STEEL
CNW G-1	921	2	CUT FROM BUNTING INDUST. RIM TYPE BEARING 1-EG04		BAG BRONZE
CNW-7	921	2	DOUBLE SPACNET		CAS
CNW 7-1	921	2	HUB		STEEL

[illegible][illegible]



DETAIL "1"
FUEL TANK COVER PLATE
NR. REQD. 1 - SCALE 3" = 1'-0"

NOTE: USE COVER PLATE AS
TEMPLATE FOR LOCATING HOLES
IN CHANNEL



END VIEW SHOWING COVER PLATE

BILL OF MATERIAL					
FIND NO.	Draw. No.	QTY	NOMENCLATURE	SPEC.	MAT'L.
1	922	1	ENGINE & RESERVOIR FDN.		STL
2	"	1	ENGINE (GM Model 3031 C)		
3	"	1	HYDRAULIC OIL COOLER VICKERS OCA-30-10-3AYDC MOTOR		
4	922	1	TANK FLANGE & GASKET (RATWON)VICKERS #31316		
5	922	1	RESERVOIR		STL
6	922	1	FILTER & AIR DRAINER VICKERS #3P-113-B		
7	"	1	FILTER VICKERS #505-149-M-3-P4		STL
8	"	1	2" PIPE (LENGTH TO SUIT)		STL
9	"	2	STEEL NIPPLE PIPE 2" NPT x 4"		
10	"	2	PUMP - VICKERS #3AYDC A-1C10-1B2		
11	"	1	DIRECTIONAL CONTROL VALVE VICKERS #CH3 NO1-KB2-C0		
12	"	1	RELIEF VALVE VICKERS CB-05-F-10		
13	"	1	RELIEF VALVE VICKERS CB-05-F-10		
14	"	1	DIRECTIONAL VALVE VICKERS DB-1T30-012-A-41		
15	"	1	REDUCING CONTROL VALVE VICKERS #RS-05-F-10		
16	"	1	DIRECTIONAL CONTROL VALVE VICKERS #CH3 NO-KDL-C0		
17	"	4	RESINORING GASKETS - HELICOID #440, 3/16" x 3/16" 2 RUBBER O-RINGS 1/4" ID x 1/2" OD, 1/2" ID x 1/2" OD, 1/2" ID x 1/2" OD		BRASS
18	"	3	FORGED STEEL 3" x 3" x 3" HALF C.P.D. 1" NPT		STL
19	"	3	FORGED STEEL HEX. HD. 1/2" x 1/2" x 1/2"		
20	"	1	FORGED STEEL 3" x 3" x 3" HALF C.P.D. 1" NPT		
21	922	1	RACINE LEVEL GAGE		
22	SEE SH. 923		NUT-RSG SEMI-FIN. HEX. 3/8" x 3/8"		STL
23	SEE SH. 923		1/2" NEOPRENE GASKET SHEET		
24	SEE SH. 923		BOLT-3/8" HD. REG. 3/8" x 1" LG.		STL
25	922	1	1/2" NEOPRENE GASKET SH.		
26	922	18	NUT-RSG SEMI-FIN. HEX. 3/8" x 3/8"		STL
27	922	18	BOLT-3/8" HD. REG. 3/8" x 1" LG.		STL
28	922	1	TANK FLANGE & GASKET (JUNCTION)VICKERS #31316		
29	SEE SH. 924		HYDRAULIC CONTROL PANEL		STL
30	922	1	BULB WELL VICKERS #CBW-2-C0		
31	"	2	SPROCKET-#D30B10 FOR ASA 60-C ROLLER CHAIN, DOSE & KEYWAY FOR 1/2" SHAFT		STL
32	"	2	SPROCKET-#D30B10 FOR ASA 60-C ROLLER CHAIN, DOSE & KEYWAY FOR 1/2" SHAFT		STL
33	922	2	ROLLER CHAIN - ASA 60-C 18 PITCHES EACH WITH 6 CONN. LINK		STL
34	922	1	FUEL TANK 16 GALLON CORR. CLAY BAILEY #161 BURNING		STL
35	922	1	FORGED STEEL 2" x 2" x 2" HALF C.P.D. 1" NPT		STL
36	922	1	CAP - CLAY BAILEY #342		BRASS

REFERENCE DRAWINGS

DWG. NO.	TITLE
923	INSTALLATION EQUIPMENT - RESERVOIR DETAILS
924	INSTALLATION EQUIPMENT - HYDRAULIC CONTROL PANEL

NOTE

1) KEY NO'S. 12, 13, 14 & 15 TO BE SUPPLIED WITH MOUNTING SUB
PLATE.



MONO-MOORING SYSTEM

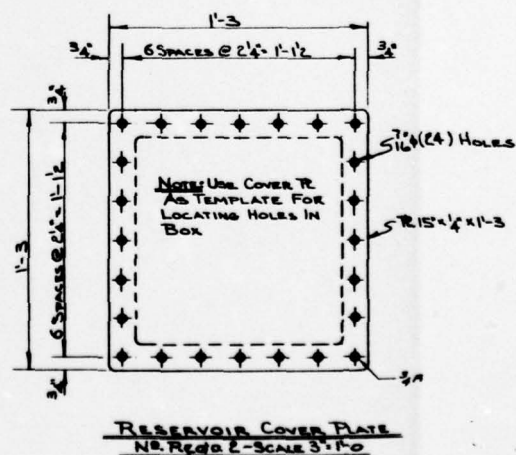
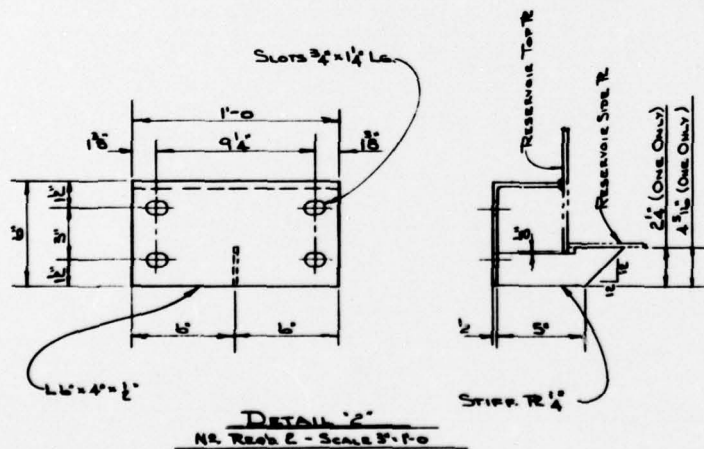
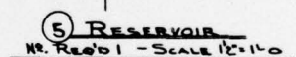
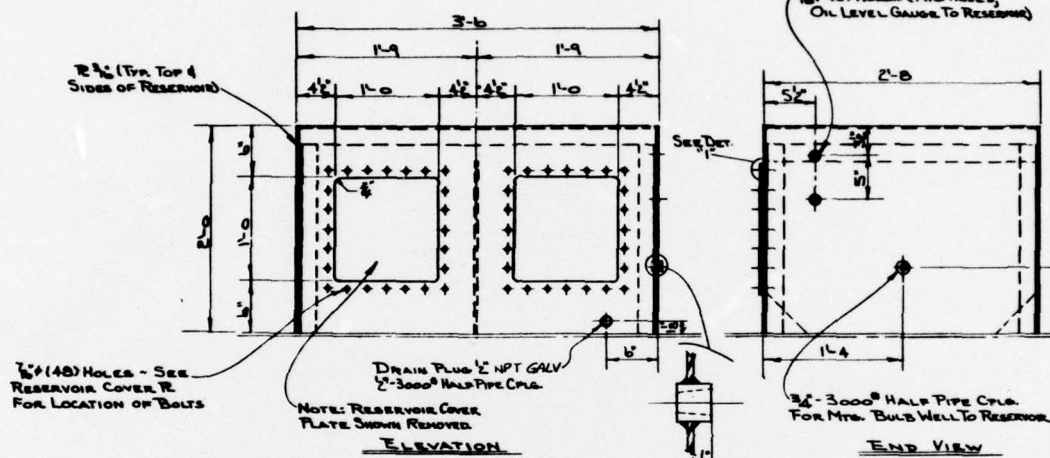
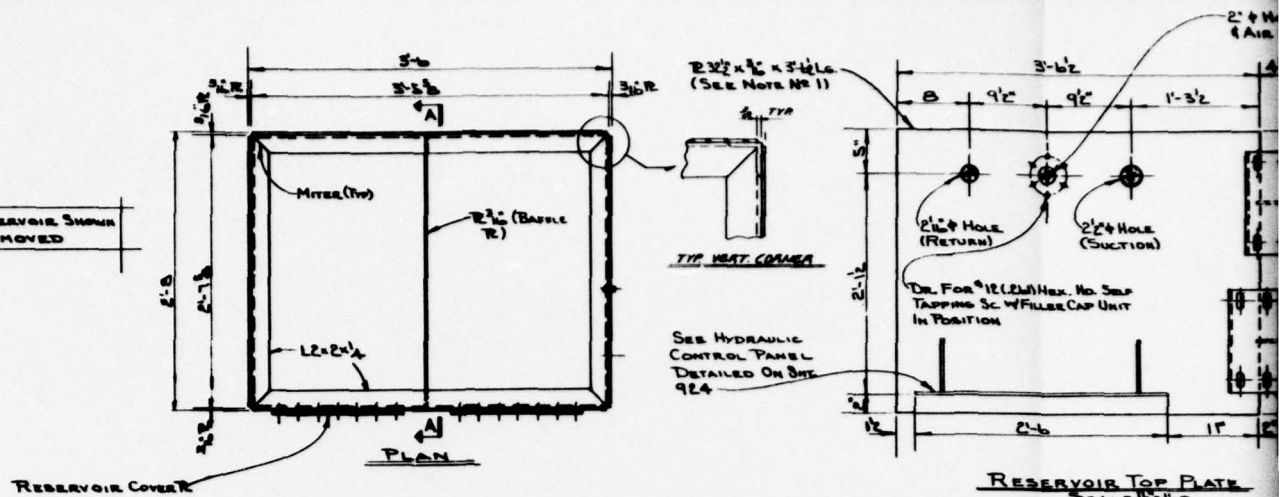
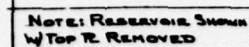
FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

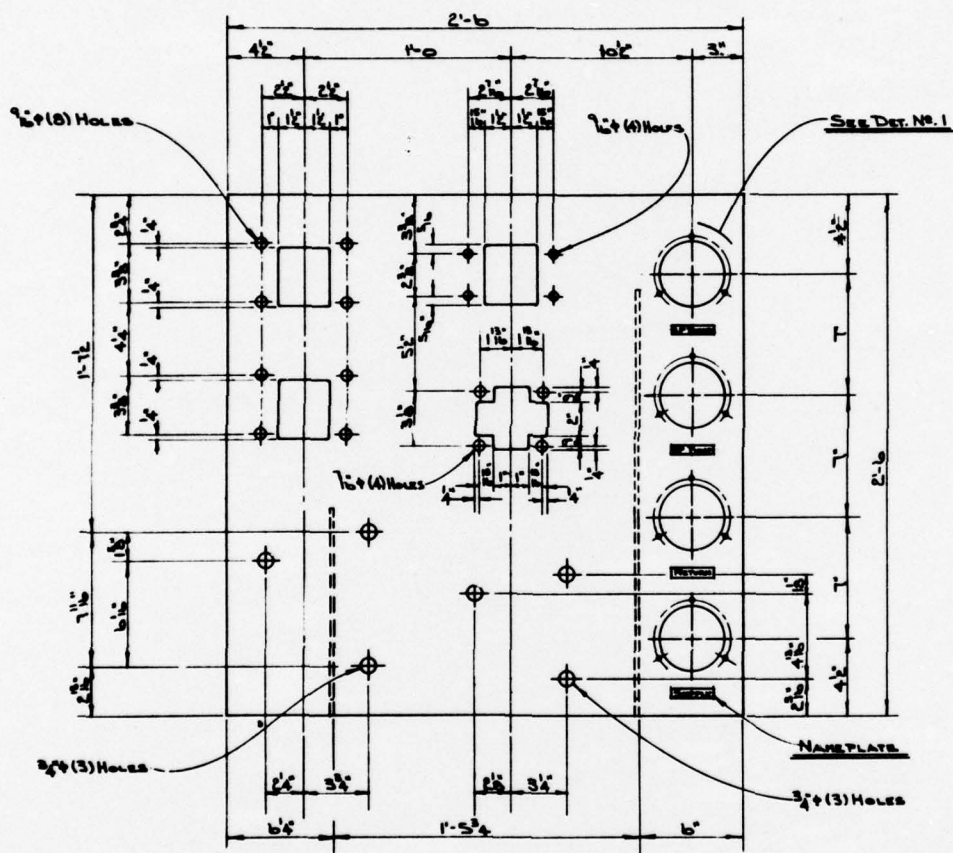
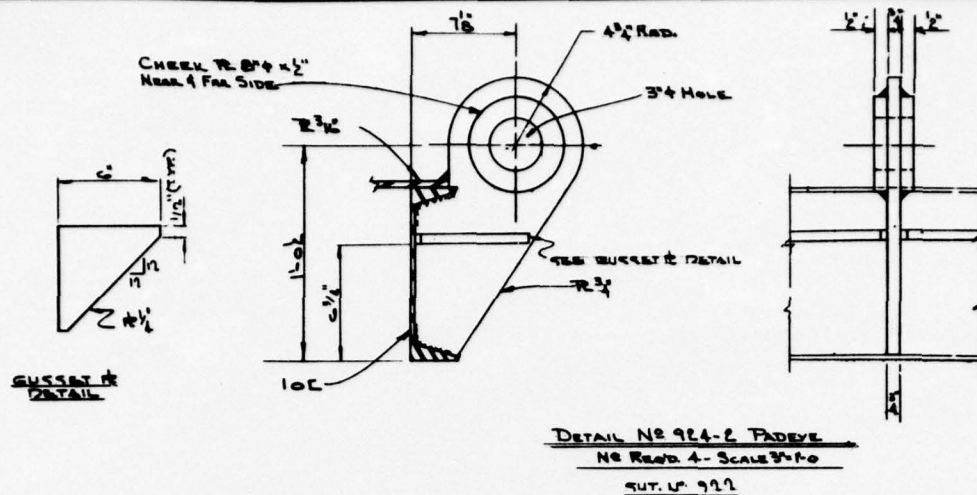
NEW ORLEANS, LA.			
GROUP BY	SCALE	DATE	PROJECT NO.
S. Guillory	As Noted	10-28-6	USA 2971
PREPARATION AND NO.		J. DAY IN CHARGE AND NO.	SHEET NO.
56017			922

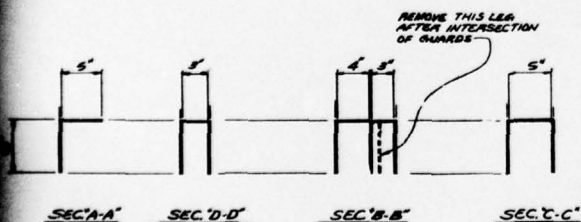
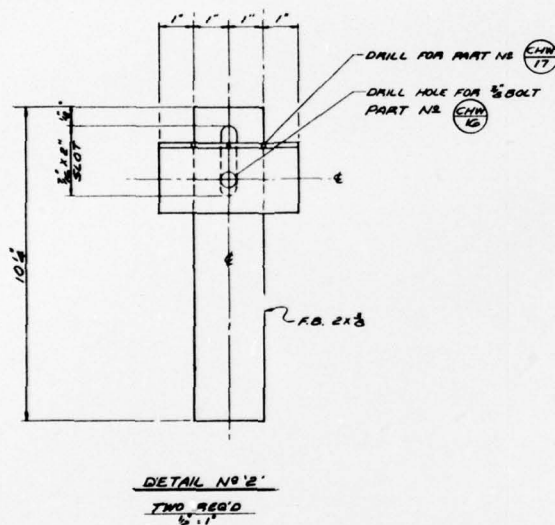
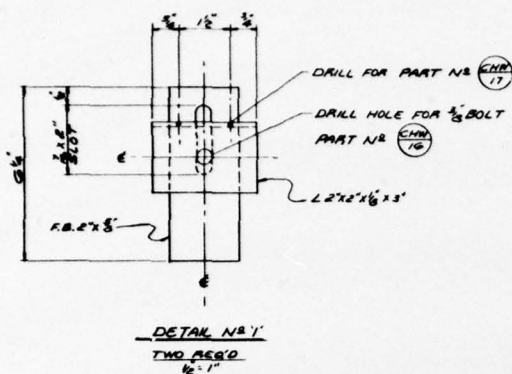
INSTALLATION EQUIPMENT - HYDRAULIC PUMPING
UNIT & 300' DRAULIC

[illegible]

[illegible]

MONO-MOORING SYSTEM			
FOR			
U.S. ARMY ENGINEER RESEARCH & DEVELOPMENT LABORATORIES			
FORT BELVOIR, VIRGINIA			
J. RAY Mc DERMOTT & CO., INC.			
ENGINEERED		CONTRACTORS	
NEW ORLEANS, LA.			
DESIGNED BY	SCALE	DATE	PROJECT NO.
S. B. H. Newby	As NOTED	11-1-65	USA 2711
FABRICATORS JOB NO.	J. RAY Mc DERMOTT JOB NO.		SHEET NO.
56017			925
INSTALLATION EQUIPMENT - RESERVOIR DETAILS			

ELEVATION[illegible]



SEC. A-A' SEC. D-D' SEC. B-B' SEC. C-C'

BILL OF MATERIAL

[illegible]

REFERENCE DRAWINGS

[illegible]

MONO-MOORING SYSTEM

FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.

ENGINEERS CONTRACTORS

NEW ORLEANS, LA.

MADE BY	SCALE	DATE	PROJECT NO.
11-10-66	1"=100'	11-10-66	1100-007

MANCHINA	NOTED	11-10-68	USA-201
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ADMINISTRATIVE JOB NO.	63017	J. RAY McDERMOTT JOB NO.	025
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5077	525
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[illegible]



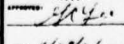
2. ALL EQUIPMENT CONNECTIONS ARE NPT OR AS SHOWN.
3. ALL PIPE SHALL BE ASTM A-106, GR. B OF "XS" OR SCHEDULE 80 WALL.
4. ALL TUBING SHALL BE SAE 1010 SUITABLE FOR CONTINUOUS DUTY. RATING OF 3000 PSI @ 350 °F.
5. ALL TIGHTENING SHALL BE RATED FOR 3000 PSI SERVICE CONTINUOUS DUTY.
6. DEAM ALL PIPE AFTER CUTTING TO INSURE FULL INTERNAL DIAMETER.
7. ASSEMBLE ALL SCREWED PIPING WITH THREAD JOINT COMPRESSOR AND 90° ELBOW FOR HYDRAULIC SERVICE.
8. TIGHTEN PIPING TO INSURE LEAK TIGHT JOINTS; CARE SHOULD BE EMPLOYED NOT TO OVER TIGHTEN CONNECTION AND INDUCE EXCESSIVE STRESS IN CONNECTIONS.
9. PIPING SYSTEM SHOULD BE CLEANED AND FLUSHED FREE OF ALL FOREIGN MATERIAL BEFORE EQUIP. HOOK-UP.
10. PIPING SHOULD BE SUPPORTED AS REQUIRED.
11. ALL PIPING SHALL BE DONE IN ACCORDANCE WITH STANDARD U.I.C. PRACTICES.
12. UNDER OTHERS SPECIFICATIONS ALL SAE CONNECTIONS TO BE 4" 3" 2" FLANGE TYPE.

FIND N ^o	DWG. NO.	QUAN.	NOMENCLATURE	SPEC	MAT'L
1	SEE SHT 922		HYDRAULIC OIL RESERVOIR 886-661-100M. CAP		
2	do		PUMP VALVE TYPE. FIXED VOLUME VICKERS-3015A-1C10-1B2		
3	do		STRAINER VICKERS-505-140-M-8 P4		
4	do		RELIEF VALVE VICKERS-C6-06-P-10		
5	do		UNLOADING VALVE E6-06-P4-10		
6	SEE SHT 926		CHECK VALVE VICKERS-C2-015		
7	do		CHECK VALVE VICKERS-C2-030-518		
8	SEE SHT 922		DIRECTIONAL VALVE VICKERS-CM3N01-KBL-20		
9	SEE SHT 919		MOTOR-PISTON TYPE-FIXED VOLUME VICKERS-MP4120-30-F-U-10		
10	SEE SHT 922		RELIEF VALVE VICKERS-C6-06-F-10		
11	do		DIRECTIONAL VALVE VICKERS-CM2N02-KDL-20		
12	do		DIRECTIONAL VICKERS-DG1754-012A-41		
13	do		OIL COOLER VICKERS-OCA-30-10		
14	SEE SHT 926		FILTER VICKERS-OFM-202		
15	SEE SHT 927		NEEDLE VALVE		STEEL
16	SEE SHT 926		AIR BLEED VALVE VICKERS-ABT-02-10		
17	SEE SHT 922		PRESSURE GAUGE-MELCOR 9460. SIZE 1/2" FLUSH MOUNTING. 316 SOCKET & TUB ASSY. PHENOL CASE. BACK CONN. RANGE 0-4000 PSI		
18	SEE SHT 926		ANGLE TYPE NEEDLE VALVE. CRANE NO. 223H		STEEL
19	do		HYDRAULIC HOSE, AEROGUIP STYLE 2760-20 W/AT72-20-203 END- FITTINGS, 30' LONG EACH		
20	do		HYDRAULIC HOSE, AEROGUIP STYLE 2760-12 W/AT72-12-125 END- FITTINGS, 30' LONG EACH		
21	SEE SHT 927		UNION COUPLING, AEROGUIP STYLE 5101-203-STEEL W/DUST CAP & PLUG		STEEL
22	do		UNION COUPLING, AEROGUIP STYLE 5101-125-STEEL W/DUST CAP & PLUG		STEEL

NOTE
PIPE & FITTINGS NOT
LISTED.

DWG. No.	TITLE
919 ,	CHAIN HANDLING WINDLASS - SKID MOUNTED
322	INSTALLATION EQUIPMENT-HYD PUMPING UNIT & FDN. DETAILS

THIS DRAWING SHOWS THE HYDRAULIC SYSTEM WHICH IS COMMON TO BOTH THE "CHAIN HANDLING BOOM" AND THE "SKID MOUNTED WINDLASS". THE "SKID MOUNTED WINDLASS" IS SHOWN ON THIS SHEET. SEE SHEET 936 FOR "CHAIN HANDLING BOOM" CONNECTIONS IN THIS SYSTEM.



FOR
U.S. ARMY ENGINEER RESEARCH
& DEVELOPMENT LABORATORIES
FORT BELVOIR, VIRGINIA

J. RAY Mc DERMOTT & CO., INC.
ENGINEERS CONTRACTORS

NEW ORLEANS, LA			
DRIVE BY	HOLD	DATE	FILE #
232 & AC	NONE	11/16/65	USA 297
	55017		927

SCHEMATIC
OF MONITORING CLASS - EXHIBIT 1

[illegible]